Minneapolis

VED

Official Laws

REGULATING

The Construction, Alteration, Maintenance, Repair and Removal of Buildings

Together with the

Theatre and Certain General Ordinances

of the

CITY OF MINNEAPOLIS

1920

JAMES G. HOUGHTON
Building Inspector

Official Laws.
Building & Theatre Ordinances
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CITY OF MINNEAPOLIS

1920

JAMES G. HOUGHTON
Building Inspector

Building Ordinance

o Regulate the Construction, Alteration, Maintenance, Repair and Removal of Buildings within the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

PART I.

INSPECTOR OF BUILDINGS.

Election of Inspector of Buildings:

Section 1. The City Council shall, at the time of electing other city officers, elect an Inspector of Buildings, whose term of office shall be two years, or until his successor is appointed and qualified. If at any time such Inspector proves to be incompetent, dishonest or in any way unsuited to the office, he may be removed by said City Council, and said City Council shall, upon such removal, proceed to the appointment of an Inspector to fill the unexpired term.

Qualifications of Inspector:

The Inspector of Buildings shall be a practical architect, builder or civil engineer, who has been engaged in the active duties of his occupation for at least ten (10) years.

Shall Pass Examination:

The Inspector of Buildings shall be required, before his election or appointment, to pass an examination before a board composed of two regular architects, two master builders and the City Engineer of said City of Minneapolis, and said board shall certify to the City Council the names of all applicants to whom certificates of competency shall have been issued by such board, and all applicants *who shall* pass satisfactory examinations *before such board shall* be granted such certificates *of competency.*

Said board shall include in their certification to the City Council the names of all persons who may have produced to said board certificates of competency from former boards regularly appointed for such purpose.

The architects and master builders of said board shall be appointed by the City Council.

Time and Place of Examination:

It shall be the duty of said City Council to designate a time and place, and give public notice thereof, by publication at least three times in the official paper of said city, when such board will convene for such examination.

Such examination shall be open to any architect, builder or civil engineer with a practical experience of at least ten (10) years in his occupation.

All candidates shall be examined by such board in both the theory and practice of architectural and engineering construction, in the calculation of the strength of materials and their various combinations, and in all such other details as shall seem best to said board.

Board to Report to City Council:

After such examination, said board shall report, in writing, to the City Council, the names of such persons to whom certificates have been issued, and from such persons said City Council shall elect such officer.

Oath of Office:

The Inspector of Buildings shall, before he enters upon the duties of his office, take and subscribe an oath before the City Clerk, to faithfully and impartially execute the duties of his office, and shall give a bond in the sum of five thousand dollars ($5,000.00), to be approved by the City Council, conditioned for the faithful performance of his duties.

He shall keep an office in the City Hall, or such other place as shall be furnished at the expense of the city.

POWER OF INSPECTOR.

Section 2. The Inspector of Buildings shall appoint all subordinate officers, assistants, clerks and employes in his department, by and with the consent of the City Council, and may for good cause discharge them at any time he may deem it for the best interests of the city and the department.

Such appointees shall include a department engineer, who shall have passed a successful examination before said board of examiners appointed to examine the candidates for the office of Inspector of Buildings. Said examination shall consist of a thorough investigation of the applicant's ability to read plans, figure stresses of materials, and in all other matters which may appear to said board to come within the range of said Engineer's duties.

Such appointees shall also include a secretary, first assistant building inspector, chief electrical inspector, chief plumbing inspector, chief elevator inspector, and such other assistants, employes and clerks as the City Council may by resolution designate or approve.

The Inspector of Buildings shall have the management and control, subject to the regulations of the City Council, of all matters and things pertaining to the department, and all subordinate officers, assistants, clerks and employes in said department shall be subject to such rules and regulations as shall be prescribed by said Inspector of Buildings.

The Inspector of Buildings shall have full power to pass upon any question arising under the provisions of this ordinance subject to the conditions, modifications and limitations contained therein.

PRECAUTIONS IN BEHALF OF PUBLIC SAFETY.

Section 3. It shall be the duty of the Inspector of Buildings, when any citizen represents, or whenever it may in any other manner come to his knowledge, that ashes or combustible materials are kept in any place in the city in an insecure manner or that the doors, stairways, corridors, exits or fire-escapes in any factory or workshop or place of employment, amusement, instruction or habitation are insufficient for the escape of employes or other persons in such buildings in case of fire, panic or accident, or that the funnels, flues, fire-boxes or heating apparatus in any building within the city are insecure or dangerous, or that any building or part thereof is insecure or dangerous, or in any wise in contravention of the provisions of this ordinance, to make, or cause to be made, an examination of such place or building, and if such representation is found to be true, said Inspector of Buildings shall give notice in writing to the owner, occupant, lessee or person in charge or control of such place *or building to make* such changes, alterations *or repairs as public safety*, in the opinion of the *Inspector of Buildings*, or the ordinances of the city,

DANGER CARDS.

Section 4. Whenever the Inspector of Buildings has knowledge of any unsafe building, structure or part thereof, the conditions being such as to endanger the public, or the occupants of such building or structure or of adjoining buildings or structures, it shall be his duty to affix a NOTICE of the dangerous character of such building or structure in a conspicuous place on the exterior thereof, and any person removing such NOTICE so affixed shall be subject, upon conviction thereof, to a fine of not less than ten dollars ($10.00) nor more than twenty-five dollars ($25.00), or, upon failure to pay such fine, to imprisonment not exceeding thirty (30) days.

AUTHORITY OF INSPECTOR.

Section 5. The Inspector of Buildings and his regularly authorized assistants are hereby given authority to enter any building in the City of Minneapolis in the performance of their duties, and to order and compel the suspension of any work being done in violation of the provisions of this ordinance, and to prohibit the use of any material or the maintenance or operation of any machinery in violation of the provisions of this ordinance, or in violation of the provisions of any other ordinance of the City of Minneapolis, the enforcement of which comes within his or their duties.

No person shall continue any work on or in any building, or use any material in or about any building, or use any machinery in or about any building, after said Inspector of Buildings or his regularly authorized assistants shall have, in writing, directed the suspension of such work or prohibited the use of such material or machinery.

The Inspector of Buildings and his regularly authorized assistants are hereby given authority to make such tests, or order such tests to be made, as they may deem necessary to determine the safety of the condition of any building, material or machinery which it becomes their duty, under the provisions of this ordinance, to inspect.

The Inspector of Buildings shall have full authority to approve or disapprove any device, material or construction proposed to be used in building construction in the City of Minneapolis, not specifically provided for in this ordinance, and may base such approval or disapproval upon the results of satisfac-

tory evidence of competent and impartial tests or investigations conducted by others, or upon the results of satisfactory tests made under his direction.

The owner or lessee of every building within the City of Minneapolis shall provide and maintain such stairways and exits, and install and maintain such standpipes, fire apparatus, fire extinguishers and automatic sprinkler systems, and so install the heating apparatus and the gas and electric lights, and provide such other appliances and equipment as may be necessary for public safety, whenever directed so to do by the Inspector of Buildings.

Provided, however, that should the owner or lessee of any such building receive written notification from the Inspector of Buildings to provide stairways and exits, or to install standpipes, fire apparatus, fire extinguishers, automatic sprinkler systems, or dry sprinkler systems, or to so install the heating apparatus or gas and electric lights, or to provide other appliances or equipment, in excess of what he or they may deem necessary for the public safety, then such owner or lessee shall, within ten (10) days after receiving such written notification from the Inspector of Buildings, file with the said Inspector of Buildings a written protest stating wherein the requirements of said written notification are, in his opinion, unnecessary for the public safety; and the said Inspector of Buildings shall present such written protest to the City Council, at the first regular meeting thereafter held by that body, for investigation and final decision, and it shall require a majority vote of said City Council to sustain such protest. In case such final decision is not rendered at that or the next regular meeting of the said City Council held thereafter, then said written notification to the owner or lessee from the Inspector of Buildings shall stand as approved by said City Council.

INSPECTION OF ELEVATORS; POWER TO STOP USE OF SAME.

Section 6. The Inspector of Buildings and his regularly authorized Elevator Inspectors are hereby given authority to prohibit the use of any passenger or freight elevator whenever in their opinion any of the machinery, hoistways, enclosures, gates or doors, or any of the appurtenances connnected therewith, are in a dangerous or unsafe condition. Such prohibition shall continue in force until such elevator, machinery, hoistways, enclosures, gates or doors, or appurtenances

connected therewith, or either or all of them, shall have been put in a safe condition and approved by the Department of Buildings.

RULES FOR THE CONTROL OF EMPLOYES.

Section 7. The Inspector of Buildings may make such rules and prescribe such regulations for the control of the employes in his department as in his judgment will secure the most careful and efficient performance of their duties by such employes.

MAY STOP CONSTRUCTION OR WRECKING OF BUILDINGS.

Section 8. The Inspector of Buildings is hereby given authority to stop the construction, alteration or repair of any building, or the wrecking of any building, within the City of Minneapolis, whenever, in his judgment, the same is being done in a reckless, careless, unsafe or improper manner, or in violation of any ordinance of the City of Minneapolis, and to order, in writing or by parole, any and all persons in any way or manner whatsoever engaged in constructing, altering, repairing or wrecking any such building to stop and desist therefrom. When any such work shall have been so stopped by the Inspector of Buildings, it shall not be resumed until after said Inspector shall have been satisfied that all precautions will be taken for the protection of life and property and that such work will be prosecuted in a safe manner and in conformity with the ordinances of the city.

ARBITRATION; APPEALS.

Section 9. The Inspector of Buildings shall have power, and it shall be his duty, subject to the provisions of law and of the ordinances of the City of Minneapolis, and of the general rules and regulations established according to law, to pass upon any question relative to the mode, manner of construction or materials to be used in the erection or alteration of any building or other structure erected or to be erected within the City of Minneapolis which is affected by the provisions of this ordinance, or of any existing law applicable to the City of Minneapolis and relating to the construction, alteration, maintenance, repair and removal of buildings or other structures therein, and to require that such mode, manner of construction or materials shall conform to

the true intent and meaning of the several provisions of this ordinance and of the laws and ordinances aforesaid, and the rules and regulations established by the Inspector of Buildings. Whenever the Inspector of Buildings, to whom such a question has been submitted, shall reject or refuse to approve the mode, manner of construction or materials proposed to be followed or used in the erection or alteration of any such building or structure, or when it is claimed that the rules and regulations of the Inspector of Buildings or the provisions of this ordinance do not apply, or that a more desirable and equally safe form of construction, from the owner's point of view, can be employed in any specific case, or whenever the owner of any such building or structure shall object to any decision given by the Inspector of Buildings relative to the extent of the damage sustained by any building or structure, by fire or otherwise, the owner of such building or structure or his duly authorized agent may appeal from the decision of said Inspector of Buildings where the amount of damage by fire or otherwise or the extra cost of construction involved by such decision shall exceed the sum of one thousand dollars ($1,000.00). Provided, however, that arbitration shall not be permitted on any matter specifically covered by this ordinance.

Any such owner, or his duly authorized agent, desiring to make such appeal shall do so within five (5) days after notice of the decision or order of the Inspector shall have been given him. The Inspector of Buildings shall at once, after receiving written notice of such appeal, file a copy of the same for hearing and decision with a Board of Examiners to be appointed annually by the City Council, which Board of Examiners shall consist of one (1) member recommended by the Minneapolis Society of Architects, one (1) member recommended by the Engineers' Club of Minneapolis, and one (1) member recommended by the Master Builders' Association of Minneapolis. The City Council shall annually designate one of such Board of Examiners as the presiding officer of said board. The said examiners shall each take the usual oath of office before entering upon the performance of their duties. At least two (2) affirmative votes shall be necessary to the granting of any appeal considered by said board. No member of said board shall pass upon any question in which he is, directly or indirectly, *personally interested*. In case any one *member of said board is* in any way interested in *any case of appeal, then* if the two remaining mem

[illegible] shall [illegible] and approved by the Inspector of Buildings.

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[illegible] ACTS.

[illegible]. The Inspector of [illegible] power, and it shall be the [illegible] duties of the [illegible] of the City of Minneapolis, and of the [illegible] established according to [illegible] laws relative to the [illegible] materials to be used [illegible] any building, or [illegible] provided, within the [illegible] affected by the [illegible] any building [illegible] [illegible] [illegible] [illegible]

the true intent and meaning of the several provisions of this ordinance and of the laws and ordinances aforesaid, and the rules and regulations established by the Inspector of Buildings. Whenever the Inspector of Buildings, to whom such a question has been submitted, shall reject or refuse to approve the mode, manner of construction or materials proposed to be followed or used in the erection or alteration of any such building or structure, or when it is claimed that the rules and regulations of the Inspector of Buildings or the provisions of this ordinance do not apply, or that a more desirable and equally safe form of construction, from the owner's point of view, can be employed in any specific case, or whenever the owner of any such building or structure shall object to any decision given by the Inspector of Buildings relative to the extent of the damage sustained by any building or structure, by fire or otherwise, the owner of such building or structure or his duly authorized agent may appeal from the decision of said Inspector of Buildings where the amount of damage by fire or otherwise or the extra cost of construction involved by such decision shall exceed the sum of one thousand dollars ($1,0[illegible] Provided, however, that arbitration shall n[illegible] mitted on any matter specifically cover[illegible] linance.

Any such [illegible] his duly authorized agent, desiring t[illegible] ppeal shall do so within five (5) days [illegible] the decision or order of the Inspecto[illegible] en p[illegible] him. The Inspector of Bu[illegible] one [illegible] receiving written noti[illegible] al, [illegible] of the [illegible] of [illegible] he[illegible] [illegible] he[illegible] [illegible] [illegible]

bers cannot agree, they shall select a third man, from the organization from which said interested member was originally selected, to serve on the board for that particular case.

The said board shall meet upon notice from the Inspector of Buildings and consider any appeal from the decision of said Inspector, and report their decision in writing to the Inspector of Buildings, who shall at once send a copy of said decision to the appellant.

Each member of such Board of Examiners shall be entitled to and shall receive twenty-five dollars ($25.00) per day for each day he attends a regularly called meeting of said board.

The appellant shall file a bond with the City Treasurer, properly approved by the City Attorney, conditioned upon the payment in full by the appellant of the total cost of arbitration, including stenographer's fees, if any, should the appellant be not sustained in said appeal. Provided, however, should the appellant be sustained in his appeal, the costs of arbitration shall be paid by the City, excepting, however, that the City shall not be held liable for appellant's attorney's fees or expert witnesses' fees.

The decision of the Board of Examiners, upon such appeal, shall be rendered without unnecessary delay, and such decision shall be final. Provided, further, that whenever the decision of the Inspector of Buildings upon the safety of any building or part thereof or appurtenances connected therewith is made in a case so urgent, in his opinion, that failure to at once properly carry out his orders to demolish or strengthen such building or part thereof or to alter or change any of the appurtenances connected therewith may endanger life or limb, the decision of the Inspector of Buildings shall be absolute and final.

APPOINTMENT OF ASSISTANTS.

Section 10. The Inspector of Buildings may, by and with the consent of the City Council, appoint such assistants as herein named, and such other assistants, clerks and employes as the City Council may by resolution approve or designate.

Such assistants shall be competent men, with at least five (5) years of practical experience at their respective trades. They shall be men of good habits and character, and each shall be capable of writing a *fair hand* and of making his reports with clearness. *No person shall* serve or be appointed as any such *assistant who* is deficient in these qualifications, and

before the appointment to office such assistants, excepting clerks in the office, shall pass an examination before the Board of Examiners hereinbefore provided for the examination of candidates for Inspector of Buildings, at the same time and place of examination as provided for candidates for Inspector of Buildings, and shall produce a certificate from such board of their competency and necessary qualifications.

Such Board of Examiners shall examine applicants for the several positions of inspectors as to the above qualifications, and such other details as shall seem best to said board.

ELECTRICAL WORK; GENERAL SUPERVISION OF.

Section 11. The Inspector of Buildings shall have charge of, and exercise general supervision over, all electrical work in the City of Minneapolis placed by ordinance within the jurisdiction of his department.

He shall appoint a Chief Electrical Inspector and such Assistant Electrical Inspectors as the City Council may provide for. Such inspectors shall inspect and examine all electrical work and wiring as the electrical ordinances of the city require to be examined and inspected by them, and shall perform all other duties required by said electrical ordinances.

Such Electrical Inspectors shall possess all of the qualifications required of the other assistants herein referred to, and shall pass an examination, at the same time and place as provided for candidates for Inspector of Buildings, before a Board of Examiners which shall consist of the board hereinbefore referred to and the professor in charge of the department of electrical engineering of the University of Minnesota, and shall procure from such board a certificate of competency for such positions.

INSPECTOR AND ASSISTANTS NOT TO BE ENGAGED IN THE BUILDING BUSINESS.

Section 12. The Inspector of Buildings and assistants shall not, during their term of office, be employed or engaged, directly or indirectly, in any building business, or enter into any contract for building for others, or furnish any material for building for others.

SALARIES.

Section 13. The City Council shall in all cases fix

the salaries of the Inspector of Buildings, assistants, clerks and employes.

PART II.

PRELIMINARY REQUIREMENTS.

General Requirements:

Section 14. No wall, structure, building, or part thereof, platform or staging shall hereafter be erected, unless it be sufficiently strong for the purpose intended, and also in strict conformity to the provisions of this ordinance.

No building already erected, or which shall be hereafter erected, shall be raised, altered, moved or built upon in any manner that would be in violation of the provisions of this ordinance, or of the permit issued thereunder.

All buildings and structures, or parts of buildings or structures, hereafter erected or altered in the City of Minneapolis shall be of sound and proper materials, and abundantly strong for the purposes intended, and all work thereon shall be executed in a mechanical and workmanlike manner.

PERMITS; WHEN REQUIRED.

Section 15. It shall be unlawful for any person, firm or corporation to commence or to proceed with the erection, enlargement, alteration, repair, removal, or wrecking of any building or structure in the City of Minneapolis, without first obtaining and having a permit from the Inspector of Buildings therefor, or to fail or neglect to comply with the provisions of this ordinance and of the permit issued thereunder.

PERMITS EXPIRE; WHEN.

No permit issued under the provisions of this ordinance, and under which work has not yet commenced, shall be valid for a longer time than six months from date of issuance.

APPLICATION FOR PERMITS, HOW MADE; STAMPED PLANS.

Whenever any person or persons shall be desirous of erecting, enlarging, altering or repairing any building or structure within the limits of the city, the owner of such building or structure, or his agent, shall *make* application at the office of the Inspector of

Buildings for a permit for that purpose, and shall furnish said Inspector of Buildings with the location, dimensions, and cost of such building or structure and with such further information relating thereto or to the installation of any of the appurtenances connected therewith as said Inspector of Buildings may require, before such permit shall be issued, and shall file with said Inspector, plans and specifications, in triplicate, of the work to be done. Said plans and specifications shall be placed on file with the Inspector of Buildings a sufficient length of time to allow the necessary examination to be made of the same, after which, if it shall appear to said Inspector that the laws and ordinances of the City of Minneapolis are, and are contemplated to be, complied with, he shall grant such permit. Provided, however, that in all cases where it is made mandatory by the provisions of this ordinance for plans and specifications to be filed with the Inspector of Buildings, he shall, before the issuance of a permit for the work indicated therein, stamp each set of plans so filed with the approval of the Department of Buildings, one set of said plans to be retained on file in the office of the Inspector of Buildings and the others returned to the owner or his agent, and one of said sets shall be kept on the work during the progress of such work and until its completion. Provided, further, that said owner, or his agent, shall obtain the approval of all other city departments of such plans relative to all matters over which such departments have jurisdiction, said approval to be placed on file in the office of the Inspector of Buildings before said permit is issued.

PLANS AND DRAWINGS; ESSENTIALS OF.

All such plans and drawings as above provided for shall be made to a scale of not less than one-eighth (⅛) of one inch to the foot, and scale drawings of the details of the construction shall accompany said plans, of not less than one-half (½) of one inch to the foot. Provided, however, that all reinforced concrete construction details, where necessary to show exact location of steel, shall be drawn to a scale of at least one and one-half (1½) inches to the foot.

All distances and dimensions shall be accurately shown on said plans, and all drawings or specifications shall be made explicit and complete, showing the lot lines, the location of all plumbing fixtures, and shall also indicate the live loads per superficial foot allowed for each floor and roof of said buildings, and

the purposes for which said buildings are designed to be used.

ALTERATION OF PLANS, OR OF CONSTRUCTION, WITHOUT THE WRITTEN APPROVAL OF THE INSPECTOR OF BUILDINGS, NOT ALLOWED.

It shall be unlawful to erase, alter or modify any lines, figures or coloring contained upon plans or drawings that have been stamped with the approval of the Inspector of Buildings, except with the further approval by said Inspector of the said plans or drawings as so altered. Provided, however, that if it is desired by the owner or his agent, during the execution of the work, to deviate from the provisions of either the plans, drawings or specifications, notice of such desire shall first be presented to the Inspector of Buildings, accompanied by revised plans, drawings or specifications, showing the deviations or alterations which said owner or agent desires to make and no such changes shall be made without the written consent of said Inspector. Provided, however, that changes that do not involve any alteration of the structural parts of such building or structures, or of their stairways, elevators, fire-escapes, halls, means of ingress or egress, plumbing systems, lighting or ventilating systems, or any of the appurtenances connected therewith, and are not in violation of any provision of this ordinance, may be made without such written consent of said Inspector. Provided, further, that the Inspector of building, the cost of which will not exceed fifty dol- a foundation only, for a proposed new building, if complete plans and specifications of said foundation have been filed, in duplicate, in his office, together with a statement or specification relative to the superstructure of the proposed building containing sufficient information to enable said Inspector to approve said foundation plans.

No permit shall be required for the construction, alteration or repair of buildings owned by the United States, or by the State of Minnesota. Permits shall not be required for repairs and alterations to any building, the cost of which will not exceed fifty dollars ($50.00), but such repairs or alterations, for which permits are not required, shall not be construed to include the changing of any of the structural parts of any building or the alteration, removal or closing *of any stairway* or exit, or the altering of any chim*ney or heating plant.*

PLANS FOR SINGLE DWELLING HOUSES.

Plans for proposed single dwellings, where the cost of the dwelling will not exceed three thousand five hundred dollars ($3,500.00), or for proposed alterations or repairs to any building, the cost of which will not exceed two thousand dollars ($2,000.00), or for any proposed new building, the cost of which will not exceed one thousand dollars ($1,000.00), need not, unless otherwise provided herein, be filed with the Inspector of Buildings, except on demand of said Inspector.

REVOCATION OF PERMITS.

Section 16. Should the Inspector of Buildings become convinced that the work, for which any permit has been granted by him under the provisions of this ordinance, is not proceeding according to the statements, plans and specifications submitted when application was made for such permit, but is proceeding in violation of law, or of the provisions of this ordinance, it shall be his duty to notify the owner or owners, or the person or persons to whom such permit was granted, or the agent of either in charge of the work, in writing, that the work is being done in violation of the provisions of the permit issued therefor and that the same must be immediately rectified to conform with the laws and ordinances of the city.

If the owner or owners, or the person or persons to whom such permit was granted, or the agent of either in charge of the work, neglects to comply with the requirements of said notice or with the laws and ordinances of said city, or fails to make such corrections as ordered, it shall be the further duty of said Inspector to revoke said permit, and notice thereof shall at once be given in writing to the owner or owners, agent, superintendent or contractor in charge of the work, and a notice to that effect posted on the work. After such revocation of permit, any owner or owners, agent, superintendent or contractor in charge of such work, or any workmen engaged thereon, proceeding further with such work after the service of such notice, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than ten dollars ($10.00), nor more than one hundred dollars ($100.00), or, upon failure to pay such fine, may be imprisoned not exceeding ninety (90) days.

BUILDINGS RAISED IN HEIGHT, BUILT UPON OR ALTERED, MUST CONFORM TO ORDINANCE.

Section 17. No building or structure already erect*ed shall be raised in* height, built upon or altered in

such a manner that were such building or structure wholly built or constructed after the passage of this ordinance, it would be in violation of any provision thereof; excepting, however, where it is desired to raise, build upon or alter any good, substantial building or structure already erected, the Inspector of Buildings may allow such deviations from the provisions of this ordinance as, in his judgment, may be considered practicable, considering the strength, solidity and safety of the building or structure already erected, but in no case shall any deviations be permitted that in his judgment will be liable to detract from the safety of such building or structure when so raised, built upon or altered.

CERTIFICATE OF OCCUPANCY.

Section 18. Upon the completion of every building or structure hereafter erected within the City of Minneapolis, or of any alterations hereafter made in any building or structure in said city, providing for or resulting in a change in the nature of the use or occupancy of such building or structure, or of any story therein, or of any part thereof, or changing the strength of any floor or floors therein, if no violations of this ordinance exist in connection therewith, the Inspector of Buildings of said city shall, upon being notified by the owner that the erection or alteration of such building or structure has been completed, issue to such owner a "Certificate of Occupancy" of such building or structure, or of any story therein, or of any part thereof, which certificate shall state the purposes for which such building or structure or such part thereof may be used, and also the maximum live floor loads to be permitted therein, and, in the case of auditoriums, theatres, assembly halls and factories, the maximum number of persons that may be accommodated on each floor thereof, and the Inspector of Buildings is hereby authorized and empowered to determine and designate such number of persons who may be so permitted to be accommodated on each floor of such auditoriums, theatres, assembly halls and factories.

The Inspector of Buildings may, upon application by the owner, issue a "Temporary Certificate of Occupancy", allowing the use or occupancy of any completed portion of any building or structure in process of being erected or altered, pending the completion of the remainder of such h [illegible] or structure, provided no violation [illegible] in connec-

tion with such completed portion, and provided such temporary use or occupancy thereof would not endanger either life or property.

It shall be unlawful for the owner of any building or structure hereafter erected within the City of Minneapolis to use or occupy such building or structure, or any story therein, or any part thereof, or to permit or cause the same to be used or occupied, without first notifying the Inspector of Buildings, in writing, of the completion of such building or structure and securing from said Inspector a "Certificate of Occupancy", such as hereinbefore provided for, authorizing such use or occupancy.

It shall be unlawful to change the nature of the use or occupancy of any building or structure, or any part thereof, which may hereafter be altered or converted to provide for such change in its use or occupancy, until after the owner of such building or structure shall have notified the Inspector of Buildings, in writing, of the completion of such alterations thereto and of its proposed conversion to a different use or occupancy and shall have secured from said Inspector of Buildings a "Certificate of Occupancy", authorizing such changed use or occupancy thereof; or to use or occupy any building or structure, or any part thereof, for any other purpose or in any other manner than that authorized by the "Certificate of Occupancy" last issued for such building or structure, or part thereof, as hereinbefore provided, or to subject any such building or structure, or part thereof, to any last issued certificate, without first securing from the Inspector of Buildings a new "Certificate of Occupancy", authorizing such change or changes in use or occupancy. No such change shall be made in the nature of the use or occupancy of any such building or structure, or any part thereof, except in conformity with the requirements of this ordinance.

The Inspector of Buildings is hereby authorized and empowered to, and he may, cause to be vacated any building or structure hereafter erected, or any story therein, or any part thereof, which shall have been used or occupied in any manner contrary to ordinance, or for any other purpose or in any other manner than that authorized by the "Certificate of Occupancy" issued for such building or structure, or part thereof, or without the owner having first notified the said Inspector of the completion of said building or struc-

ture and secured from him a "Certificate of Occupancy" for such building or structure, and no such building or structure, or part thereof, so vacated, shall be again used or occupied until the necessary "Certificate of Occupancy" therefor shall have been obtained from the Inspector of Buildings as herein provided.

The Inspector of Buildings is also hereby authorized and empowered to, and he may, cause to be vacated any building or structure, or any story therein, or any part thereof, the use or occupancy of which shall have been so changed as not to conform to the requirements of this ordinance or to the provisions of the "Certificate of Occupancy" last theretofore issued by the Inspector of Buildings for such building or structure, or part thereof, as hereinbefore provided, and such building or structure, or story therein, or part thereof, so vacated, shall not again be used or occupied until made to conform to all requirements of this ordinance, nor then until the required "Certificate of Occupancy" shall have been obtained, authorizing such changed use or occupancy thereof.

PART III.

DEFINITIONS.

Section 19. The following definitions shall govern the meanings of the respective words, terms and expressions wherever used in this ordinance, and in their use by the Inspector of Buildings:

Measurement of Heights for Buildings and Walls:

The height of buildings or structures shall be measured from the curb level at the center of the front of the building to the top of the highest point of the roof, in case of flat roofs, and, for pitched roofs, one-half (½) the height of the highest gable shall be taken as the highest point of the building.

When the walls of a building or structure do not adjoin the street, then the average level of the ground adjoining the walls of the building or structure may be taken instead of the street curb level in measuring the height of such building or structure.

Measurement for Width of Buildings:

For the purpose of this ordinance, the greatest linear measurement of any building or structure in its depth shall be considered its length and the next greatest linear dimension its width.

Repairs:

"Repairs" shall mean the renewal or restoration to its original condition of any part of a building or structure which may become wholly or in part unsound, dilapidated, or unfit for the purpose for which it was created, and which may become necessary to maintain the integrity of the building; but the term shall not be construed to permit the converting of the building or structure, either in whole or in part, into a new one, or the creating of new conditions, except in accordance with the provisions of this ordinance.

Alterations:

"Alterations" shall be taken to mean the changing of arrangement or construction of any building or structure in accordance with the provisions of this ordinance.

Additions:

"Additions" shall be taken to mean the increasing of the height of a building, or increasing its ground area, in accordance with the provisions of this ordinance.

Building:

"Building" shall be taken to mean any structure built for the support, shelter or enclosure of persons, animals, chattels or movable property of any kind; and when separated by party walls, without openings, then each portion of such building, so separated, shall be deemed a separate building.

Structures:

"Structure" shall be taken to mean any building, or any grouping or combination of building materials so joined together and arranged as to serve any certain, definite purpose.

Fireproof Buildings:

"Fireproof Buildings" shall be taken to mean buildings in which all parts that carry weights or resist strains are constructed wholly of stone, burned clay, iron, steel or concrete, and in which all partitions, enclosures, stairs and elevator hoistways are made wholly and entirely of incombustible materials, and in which all metallic structural members are protected against the effect of fire by coverings of a material entirely incombustible, not injuriously affected by water, and a slow conductor of heat.

ture and secured from him a "Certificate of Occupancy" for such building or structure, and no such building or structure, or part thereof, so vacated, shall be again used or occupied until the necessary "Certificate of Occupancy" therefor shall have been obtained from the Inspector of Buildings as herein provided.

The Inspector of Buildings is also hereby authorized and empowered to, and he may, cause to be vacated any building or structure, or any story therein, or any part thereof, the use or occupancy of which shall have been so changed as not to conform to the requirements of this ordinance or to the provisions of the "Certificate of Occupancy" last theretofore issued by the Inspector of Buildings for such building or structure, or part thereof, as hereinbefore provided, and such building or structure, or story therein, or part thereof so vacated, shall not again be used or occupied unti made to conform to all requirements of this ordinance nor then until the required "Certificate of Occupancy" shall have been obtained, authorizing such change use or occupancy thereof.

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Fireproof Doors:

"Fireproof Doors" shall be taken to mean such doors as are approved as fireproof by the National Board of Fire Underwriters.

Skeleton Construction:

"Skeleton Construction" shall be taken to mean that type of construction wherein all external and internal loads and strains are transmitted from the top of the building to the foundation by a skeleton-work of rolled metal. In such metal framework, the beams, girders and columns shall be riveted or bolted to each other at their respective junction points.

A "skeleton construction" may also be made of reinforced concrete, properly joined together at the junction points of the beams, girders and columns.

Mill Construction:

The term, "Mill Construction", shall apply to all floors and roofs of buildings in which no wood floor or roof beam, girder or column shall be less than seven and one-half (7½) inches in either of its cross dimensions.

The floor and roof beams shall be covered with plank not less than two and one-quarter (2¼) inches in thickness, splined or tongued and grooved, and on top of the floor plank there shall be laid in a cross-wise or diagonal direction boards not less than seven-eighths (7-8) of an inch in thickness, tongued and grooved and properly nailed.

Ordinary Masonry Buildings:

The term, "Ordinary Masonry Buildings", shall apply to all buildings in which the exterior walls are made of incombustible materials, such as brick, stone or concrete, and the floors and roofs are made of ordinary wood construction.

Ordinary Construction:

The term, "Ordinary Construction", shall apply to all buildings in which wooden joists are used in the floor construction.

Frame or Wooden Buildings:

The term, "Frame or Wooden Buildings", shall apply to all buildings the exterior walls of which are constructed of wood.

"Frame or Wooden Buildings", the exterior walls of which are sheathed with boards and covered with a

veneer of brick, stone, concrete blocks or tile, shall be classed as frame or wooden buildings.

"Frame or Wooden Buildings", the exterior walls of which are covered with sheathing upon which metal or metal-lath and plaster are secured, shall be classed as frame or wooden buildings.

Dwelling:

The term, "Dwelling", shall apply to every building which shall be used exclusively as the home or residence of not more than two separate and distinct families.

Apartment House or Flat Building:

The term, "Apartment House or Flat Building", shall apply to every building which shall be used or designated to be used as the home or residence of three or more families, living independently of each other, and in which each apartment or flat has its own separate kitchen, set bath-tub and water closet.

Any group of rooms, fitted up with kitchen and to be used for housekeeping purposes, situated above the first floor in any building in which the ground floor is occupied otherwise than for living purposes, shall be considered an apartment or flat.

Dormitory:

A room, suite of rooms, or building, used independently of other rooms, suites of rooms or buildings, to sleep in.

Tenement:

The term, "Tenement", shall apply to every building, or portion thereof, which is designed to be rented, leased, let or hired out to be occupied as the home or residence of three or more families living independently of each other, and doing their own cooking on the premises, or by more than one family on a floor so living and cooking, but having a common right to the water closets, privies, etc., or some of them.

Lodging House:

The term, "Lodging House", shall apply to any building, or portion thereof, in which individuals are harbored, received or lodged for hire, but in connection with which no public dining room or cafe is maintained.

maintained for the handling respectively of the several classes of such goods or merchandise.

Basement:

The term, "Basement", shall mean a story whose floor is three (3) feet or more below the finished grade of the lot or the level of the sidewalk, and whose height does not exceed eleven (11) feet in the clear; all such stories that exceed eleven (11) feet in height shall be considered as first stories.

Sub-Basement:

The term, "Sub-Basement", shall apply to any story that is constructed below the basement story.

Ton:

The term, "Ton", whenever used in this ordinance, shall be construed to mean a ton of two thousand (2,000) pounds.

PART IV.

QUALITY OF MATERIALS.

Brick:

Section 20. The brick used in all buildings shall be good, hard, well-burned brick.

When old brick are used, they shall be thoroughly cleaned before being used, and shall be whole, good, hard, well-burned brick, equal in quality to new brick.

Hollow Clay Building Tile:

All tile, except as hereinafter provided for hollow tile in bearing walls of dwelling houses, shall be made of shale or clay burned to such a degree of hardness that tile for exterior walls shall not absorb more than ten (10) per cent of their weight in moisture, upon immersion for forty-eight (48) hours, and tile for interior walls shall not absorb more than fifteen (15) per cent, and all tile shall be free from injurious checks and cracks; they shall be capable of sustaining a load of not less than twenty-five hundred (2,500) pounds per square inch of vertical web section and shall have their outer shells reinforced by inner cross webs spaced so that there shall be no void of greater cross section than three (3) inches measured at right angles to the vertical surface of the tile as laid in the wall. Such tile shall not contain to exceed fifty-five (55) per cent of voids.

any other purpose; a "vent shaft" is one used solely to ventilate or light a water closet compartment, bath room, or pantry.

Public Hall:

A "public hall" is a hall, corridor, or passageway within any building of either of the above named classes, and not within an apartment or flat in such building.

Stair Hall:

A "stair hall" includes the stairs, stair landings and those portions of the public halls through which it is necessary to pass in getting from the entrance floor to the top story.

Story:

A "story" is that portion of a building between the top of any floor beams and the top of the floor or ceiling next above.

Office Building:

The term, "Office Building", shall apply to every building which is divided into rooms above the first floor which are used or intended to be used for office purposes.

Warehouse:

The term, "Warehouse", shall be taken to mean and include every building used or intended to be used for the storage of merchandise.

Store:

The term, "Store", shall apply to any building used wholly or in part for the purpose of the sale of goods, wares or merchandise.

Factory:

The term, "Factory", shall be taken to mean and include every building in which goods, wares, merchandise and articles of general and special utility are manufactured by machinery, or otherwise.

Public Building:

The term, "Public Building", shall be taken to mean and include every building used or intended to be used for the purpose of municipal offices, jail, police station, fire station, library, museum, art gallery or armory.

Assembly Hall or Public Hall:

The terms, "Assembly Hall" or "Public Hall",

Wrought Iron:

All wrought iron shall be uniform in character, fibrous, tough and ductile. It shall have an ultimate tensile resistance of not less than forty-eight thousand (48,000) pounds per square inch.

Cast Iron:

Cast iron shall be made of good foundry mixture, producing a clean, tough, gray iron. Sample bars, five (5) feet long, one (1) inch square, cast in sand moulds and placed upon supports four (4) feet eight (8) inches apart, shall bear a center load of five hundred (500) pounds before breaking. Castings shall be free from serious blow-holes, cinder-spots and cold-shuts. Its ultimate tensile strength shall not be less than sixteen thousand (16,000) pounds per square inch when tested in small specimens.

Steel:

All rolled structural steel shall have an ultimate tensile strength of not less than fifty-four thousand (54,000) pounds per square inch.

PART V.

EXCAVATIONS AND FOUNDATIONS.

Excavations:

Section 21. All excavations for buildings shall be properly guarded and protected by the person, persons or corporations causing the same to be made, so as to prevent the same from becoming dangerous to life or limb, and shall be sheath-piled where it may be necessary to prevent the adjoining soil from caving in by reason of its own weight, or by reason of any load that may rest upon it.

Any persons excavating for or commencing any foundation for any building shall fully protect any adjoining land or buildings, or the walls thereof, so that it shall remain as stable as before the excavation was commenced.

Bearing Capacity of Soils:

Where no test of the sustaining value of the soil is made, the different soils, excluding mud, at the bottom of the footings, shall be deemed capable of safely sustaining the following loads per superficial foot: Soft clay, one (1) ton; ordinary clay and sand together, in layers wet and springy, two (2) tons; loam

clay or fine sand, firm and dry, three (3) tons; very firm, coarse sand, gravel or hard clay, four (4) tons; or as otherwise determined by the Inspector of Buildings.

Where a test is made of the sustaining value of a soil, the Inspector of Buildings shall be notified so that he may be present, either in person or by representative from his department, to witness said test. A record of such test shall be filed in the office of the Inspector of Buildings.

Whenever a doubt arises as to the safe sustaining value of the soil upon which a building is to be erected, the Inspector of Buildings may order borings to be made in such soil to determine the nature of the same, by and at the expense of the owner of the proposed building.

Under no circumstances shall the foundation of any building be built upon black soil or mud. All such foundations shall be carried down to sand, gravel, hard clay or rock, except as hereinafter provided where foundations are built upon piles.

Foundations and their footings shall be proportioned to the actual loads they will have to sustain in the completed and loaded building or structure.

Every building, except those erected on solid rock, shall have foundations of brick, stone, iron, steel or concrete, laid on solid earth, or level surface of rock, or upon piles or ranging timbers where solid earth or rock is not found.

Piles:

Piles of wood, intended to sustain a wall, pier or column, shall be spaced not to exceed thirty-six (36) inches, nor less than twenty (20) inches, on centers, and they shall be driven to a solid bearing if practicable to do so, and the number of such piles shall be sufficient to safely support the superstructure to be placed thereon.

No wood pile shall be of less dimension than (5) inches at the small end, nor less than ten (10) inches at the butt for piles twenty (20) feet or less in length, or twelve (12) inches at the butt for piles over twenty (20) feet in length.

In no case shall more than forty thousand (40,000) pounds be superimposed upon any wooden pile.

When a wooden pile is not driven to refusal, its safe sustaining value shall be determined by the following formula: Twice the weight of the hammer

in tons, multiplied by the height of the fall in feet, divided by the least penetration of the pile in inches plus one (1), under the last fall of the hammer.

The Inspector of Buildings shall be notified as to the time at which a test pile is to be driven, that he may be present, either in person or by a representative from his department, to witness such test.

The tops of all wooden piles shall be cut off below the lowest water line. Whenever required by the Inspector of Buildings, concrete shall be rammed down in the inter-spaces between the heads of the piles to a depth and thickness of not less than twelve (12) inches, and for one (1) foot in width outside of the piles.

Concrete Piles:

Piles of plain or reinforced concrete may be used under the following conditions:

Plain concrete piles shall be moulded in place by methods which are reasonably certain to secure perfect, full sized piles.

Reinforced concrete piles, if properly designed to resist the shock of driving, and if driven with a cushion to lessen the shock, or if put down by a water jet, may be moulded, allowed to harden, and then driven or jetted into place.

In case concrete piles are used, whether reinforced or otherwise, their bearing value shall be determined by putting in one or more test piles and loading them after the concrete is sufficiently hard. The full working value of a pile shall not be taken at more than one-half (½) of the test load under which such pile begins to settle, and in no case shall the load on any concrete pile exceed twenty-five (25) tons per square foot of cross-section of concrete for plain piles, to which may be added six thousand (6,000) pounds per square inch of cross-section of any longitudinal steel reinforcement in reinforced piles.

Concrete piles shall in all cases be made of a mixture at least equal to one (1) part of Portland cement, two (2) parts of sand, and five (5) parts of gravel or crushed stone; the gravel or crushed stone to be of a size that will pass through a one (1) inch ring, and the concrete must be thoroughly mixed in a batch mixer.

Where ranging and capping timbers are laid on piles for foundations, they shall be of hard wood not less than six (6) inches thick, properly joined together, and their tops laid below the lowest water line.

Metal in Foundations and Footings:

Where metal is incorporated in or forms a part of foundations or footings, it shall be thoroughly protected from rust by being thoroughly embedded in the concrete in a manner approved by the Inspector of Buildings.

Foundation Walls:

Foundation walls shall be construed to include all walls and piers built below the curb level, or tier of beams nearest the curb level, to serve as support for walls, piers, columns, girders or beams.

Foundation walls shall be built of stone, brick, Portland cement concrete, or iron or steel embedded in concrete.

Base Course:

The footing or base course shall be of stone, concrete, or concrete and stepped-up brickwork, of sufficient thickness and area to safely sustain the weight to be imposed thereon. If the footing or base course be of concrete, the concrete shall not be less than twelve (12) inches thick; if of stone, the stone shall not be less than eight (8) inches in thickness for walls, and not less than ten (10) inches in thickness when under piers or columns.

The footing or base course shall in all cases be at least twelve (12) inches wider than the bottom width of walls, and at least twelve (12) inches wider, on all sides, than the piers and columns supported by such footing or base course. Provided, however, that if the superimposed load is such as to cause undue transverse strains on any footing projecting twelve (12) inches, the thickness of such footings shall be so increased as to safely support the load to be imposed thereon.

For light buildings or structures, and for small piers to sustain light loads, the Inspector of Buildings may, at his discretion, allow a reduction in the thickness and projection for footings as above provided.

All footings or base stones shall be well bedded and laid cross-wise of the wall to be placed thereon, and edge to edge.

Stepped-up Footings:

If stepped-up footings of brick are used in place of stone, above the concrete, the offsets of the brick, if laid in single courses, shall not exceed one and one-half (1½) inches, or if laid in double courses, then each such offset shall not exceed three (3) inches,

offsetting the first course of brick-work back one-half (½) of the thickness of the concrete base in such manner as to properly distribute the load to be imposed thereon.

Grillage in Foundations:

Grillage beams of wrought iron or steel resting on a proper concrete bed may be used in footings. Such beams shall be provided with separators and bolted together, enclosed and filled solid with concrete. Said beams shall be of such size and arranged in such manner as to transmit with safety the loads to be imposed thereon.

Headers in Stone Walls, Other Than for Dwellings:

All stone walls, except as hereinafter provided, twenty-four (24) inches or less in thickness, shall have at least one (1) header extending through the wall in every three (3) feet in height from the bottom of the wall, and in every three (3) feet in length, and if over twenty-four (24) inches in thickness, shall have one (1) header for every six (6) superficial feet on both sides of the wall, one laid on top of the other, to bond the wall together, and running into the wall at least two (2) feet.

All headers shall be at least twelve (12) inches in width and eight (8) inches in thickness, and shall consist of good flat stones.

No stone shall be laid in such walls in any other position than on its natural bed.

No stone shall be used that does not bond or extend into the wall at least six (6) inches. All stone shall be firmly embedded in mortar and all spaces in joints shall be thoroughly filled.

Ground Dampness:

In all cases where the soil upon which any building is to be erected is damp or contains water, suitable provision shall be made to properly carry off the moisture from such soil by means of drain tiles laid inside or outside the walls, or both. Such drain tiles shall be connected with a catch-basin, and thence discharged into a dry-well or sewer.

PART VI.

FLOOR AND ROOF LOADS.

Section 22. The dead loads in all buildings shall consist of the actual weight of walls, floors, roofs, partitions and all permanent construction.

The live or variable loads shall consist of all loads other than dead loads.

Every floor shall be of sufficient strength to bear safely the weights to be imposed thereon, in addition to the weight of the materials of which the floor construction is composed.

Each and every floor and roof shall be of sufficient strength in all its parts to bear safely upon every square foot of its surface live loads as follows:

	Pounds.
Dwelling houses	50
Apartment and flat buildings	50
Tenement houses	50
Lodging houses	50
Hospitals	50
Hotels	50
Stables	85
Garages	100
Office buildings, first floor	100
Office buildings, all floors above first	75
School houses and places of instruction	100,
(Except the class rooms having permanent seats, which may be designed for a live load of seventy-five (75) pounds.)	
Auditoriums or places for public assemblage	125
Ordinary stores	100
Buildings for light manufacturing	100
Buildings for light storage	100
Roofs	50

Buildings not classified in the above table shall be so designed as to safely carry the loads to which they may be subjected.

The strength of factory floors, intended to carry running machinery, shall be increased above the minimum given in this section in proportion to the degree of vibratory motion liable to be transmitted to the floor, as may be required by the Inspector of Buildings.

For sidewalks over areas, the live loads shall be taken to be three hundred (300) pounds upon every square foot, measured on a horizontal plane.

All vertical supports shall be of sufficient strength to bear safely the weight of the portion of each and every floor depending thereon for support, in addition to the weight required, as herein above stated, to be supported safely upon said portion of said floor.

For the purpose of determining the carrying capacity of columns in buildings over five (5) stories in height, except warehouses, a reduction of the live

loads shall be permissible as follows: for the roof and top floor, the full live loads shall be used; for each succeeding lower floor, it shall be permissible to reduce the live load by five (5) per cent, until fifty (50) per cent of the live loads fixed by this section is reached, when such reduced loads shall be used for all the remaining floors.

Loads on Floors to Be Distributed:

The weight placed on any of the floors of any building shall be safely distributed thereon. The Inspector of Buildings shall require the owner or occupant of any building, or any portion thereof, to redistribute the load of any floor, or any portion thereof, or to lighten such load, whenever he deems it necessary.

Strength of Existing Floors to be Calculated:

In all warehouses, storehouses, factories, workshops and stores, where heavy materials are to be kept or stored, or machinery introduced, the weight that each floor will safely sustain upon each superficial foot thereof, or upon each varying part of each floor, shall be estimated, upon request of the owner or occupant, by the Inspector of Buildings. Such estimates shall be posted on a conspicuous place in each story, or varying parts of each story, to which such estimates relate.

Before any building hereafter erected is occupied or used in whole or in part for any of the purposes aforesaid, and before any building erected prior to the passage of this ordinance, but not at such time occupied for any of the aforesaid purposes, is occupied or used, in whole or in part, for any of said purposes, the weight that each floor or varying part thereof will safely sustain upon each superficial foot thereof shall be ascertained and posted in a conspicuous place in each story, or varying part of each story, of the building to which it relates.

No person shall place, or cause or permit to be placed, upon any floor of any building, any greater load than the safe load thereof, as correctly estimated and ascertained as hereinbefore provided, and it shall be the duty of the owner and of the occupant of any such building, before the same is loaded, to notify the Inspector of Buildings, in order that the strength of the floors of such building may be calculated before said floors are loaded.

Strength of Temporary Supports:

The strength of every temporary support, placed under any structure, wall, girder or beam, during the

SEVEN PAR. ADDED BY AMEND. FEB. 27, 1920

erection, finishing, alteration or demolition of any building or structure, or any part thereof, and also of every staging used in connection therewith, shall be of sufficient strength and stability to safely carry the load or loads to be placed thereon.

PART VII.

WALLS, PIERS AND PARTITIONS, AND STRUCTURAL MEMBERS.

Materials of Walls:

Section 23. The walls of all buildings, other than frame or veneered frame buildings, shall be constructed of stone, brick, Portland cement concrete, hollow clay building tile, iron or steel, and, if approved by the Inspector of Buildings, any other hard, incombustible materials may be used.

All buildings shall be enclosed on all sides by independent or party walls.

The walls of buildings, where so desired, may be constructed of a less thickness than is prescribed in this ordinance, if properly provided with piers or buttresses; provided, however, that the same amount of the same materials shall enter into the construction of such piers or buttresses, and the walls between the same, as would be required for walls not so provided and of the thickness prescribed by this ordinance. Provided, however, that the walls between said piers or buttresses shall not, except as hereinafter provided, be of a less thickness than twelve (12) inches.

Bearing Walls Containing Openings:

Section 24. If any horizontal section through any part of any bearing wall in any building shows more than thirty (30) percentum area of openings, the said wall shall be increased four (4) inches in thickness (over the thickness required by ordinance for a wall if built solid) for every fifteen (15) per cent or fraction thereof, of such opening area in excess thirty (30) percentum.

The walls and piers of all buildings shall be so bonded together, with close joints filled with mo They shall be built to a line and carried up pl and straight.

The walls of each story shall be built up of fi thickness to the top of the beams above.

All brick laid in non-freezing weather shall be we before being laid.

Frozen walls or piers shall not be built upon, but shall be taken down and rebuilt, when so ordered by the Inspector of Buildings.

All isolated piers shall be built of stone or good, hard, well burned brick, laid in cement mortar, or piers may be built of concrete, subject to the approval of the Inspector of Buildings.

Brick piers shall be built of good, hard, well burned brick of uniform size, laid in cement mortar, with uniform joints throughout facing and backing, and of sufficient size to safely carry the loads intended. The joints shall not exceed three-eighths (3-8) of an inch in thickness. One course of brick shall be laid over the whole surface of the pier and the joints slushed full of mortar before the next course shall be laid. The top of the pier, when finished, shall be level for the cap-stone plate or other covering.

In case piers are faced with press brick, they shall be so laid as to have a full bearing of mortar under the entire surface of each of the press brick. The laying of press brick in piers or walls merely with the joints around the outer edge of the brick shall be unlawful.

Isolated piers shall not exceed in height ten (10) times their least dimension.

Where walls or piers are built of coursed stone, with dressed level beds and vertical joints, the said walls or piers shall in no case be less than three-fourths (¾) of the thickness herein provided for brick walls or piers.

All posts, columns, girders, floor joists and structural parts resting on masonry and transmitting a greater load per square inch than is allowed on masonry shall be carried on stone, or on cast or wrought iron or steel bearing plates of sufficient size and thickness to distribute the load so as not to exceed the safe loads per square inch allowed on masonry by this ordinance.

In the case of an external brick pier, the plate may be reduced sufficiently in size to allow four (4) inches of brick-work to intervene between the edge of the plate and the face of the pier exposed to the weather.

Rubble-Stone Walls in Place of Brick:

Section 25. Wherever rubble-stone walls are laid, in place of brick, they shall not be less than one-fourth (¼) thicker than the thickness specified for brick walls by this ordinance. Provided, however,

that no rubble-stone wall shall be less than eighteen (18) inches in thickness.

Buildings Over Fifty Feet in Width:

Section 26. In all buildings over fifty (50) feet in width, not having brick division walls, or girders supported by columns extending from front to rear of such buildings, the external walls shall be increased four (4) inches in thickness, in addition to the thickness required by this ordinance, for every fifty (50) feet or fraction thereof in excess of fifty (50) feet, in the width of such buildings.

Fire-Walls Above Roof:

Section 27. Where there is a flat, hip or pitched roof, the party or fire wall shall be carried up above the roof line not less than two (2) feet, and the thickness of such walls, or of any wall above the roof line, if of brick, shall not be less than twelve (12) inches. All walls above the roof lines shall be covered with weather-proof coping of metal, concrete, flat stone or tiling, set in cement mortar.

Recesses in Walls:

Section 28. Recesses may be made in external walls, provided the thickness of the backs of such recesses be not less than eight (8) inches. No continuous vertical recess of more than four (4) inches in depth shall be made in any twelve (12) inch wall.

Doors or Openings in Party or Fire Walls:

Section 29. All door openings in party or fire walls shall be provided with fire-doors with metal frames, and all windows or openings through any such walls shall be provided with metal frames and shall have metal sash glazed with wire-glass, all built and installed in a manner approved by the National Board of Fire Underwriters.

Hollow Walls:

Section 30. Hollow walls may be built, but all such walls shall be tied together with approved metal anchors, placed not more than two (2) feet apart horizontally and twenty (20) inches apart vertically. If such walls are used as bearing walls, the thickness of same shall be deemed the thickness of the inner section.

Curtain and Filler Walls:

Section 31. Curtain walls, if of solid brick, shall not be less than twelve (12) inches thick in buildings of the warehouse class, nor less than eight (8) inches thick in buildings of the dwelling house class.

Filler walls may be of tile or hollow brick, of the same thickness as provided for brick curtain walls. Provided, however, that no such curtain or filler walls shall be used unless the material and the thickness thereof are first approved by the Inspector of Buildings. Provided, further, that filler or curtain walls of reinforced concrete may be used, and when so used, the thickness and construction thereof shall be such as is approved by the Inspector of Buildings.

Hollow Brick and Tile in Walls:

Section 32. Hollow tile may be used for building primary bearing walls (which are defined as walls that may be used to receive directly the loads from floors and roofs in addition to their acting as partition walls), provided the proportion between thickness of wall and free height between the floors does not exceed fifteen (15), and the load, including the weight of the construction, does not exceed two hundred and fifty (250) pounds per square inch of net sectional area of tile, and shall be of the thickness required for brick walls.

Hollow clay tile may be used for exterior bearing walls in buildings of all classes, but such walls must in no case exceed four (4) stories in height above the basement in any building.

All tile shall be thoroughly bedded in mortar composed by volume of one (1) part of Portland cement and not more than three (3) parts of clean sand, to which may be added not more than five (5) per cent of lime putty.

The thickness of the plastering is not to be included as part of the thickness of the wall. Where walls are not more than five (5) feet in height, tile four (4) inches in thickness may be used. Where the thickness of the wall exceeds the thickness of the tile, no tile shall be of a horizontal thickness less than eight (8) inches, excepting where backing a header course, and each tile shall bond into the width of the wall with each adjacent tile by overlapping at least two (2) bearing webs.

Where a tile wall is to be faced with brick, the brick shall be firmly bonded into the tile backing by full brick header courses, not further apart than every

sixth course of brick, and each header shall bond into the tile, overlapping at least two (2) bearing webs of the tile, and be so firmly mortared that the brick shall form an integral part of the bearing wall, provided that when the wall is so constructed, the thickness of the brick and tile wall may be considered the same as if constructed of tile to its full thickness. In any brick faced wall in which such complete bonding of brick and tile is not provided for, the brick facing shall not be counted as a part of the thickness of the wall, and the tile component shall be of itself of the required thickness.

Joists and beams shall not be seated directly in or on hollow tile, but shall be supported on at least two (2) courses of hard burned brick.

Tile may be laid in the wall with their voids horizontal or vertical. If the tile are laid with the voids horizontal, they shall be bedded thoroughly with mortar spread upon the tile with grooves for keying the mortar. If the tile are laid with their voids vertical, all horizontal bearings or beds shall be reinforced with metal fabric of not to exceed one-quarter (¼) inch mesh and not lighter than number twenty-one (21) gauge, extending the full thickness of the tile and lapped the thickness of the wall. Such fabric shall be spread on each course of tile before the mortar is applied and shall be completely bedded in mortar as the tile are laid.

Where two vertical webs, with mortar joint between, occur over a vertical web, the area of the single web shall be used in calculating the strength of the wall at this point, and the thickness of such mortar joint between the said two vertical webs shall not exceed one-third (1-3) the thickness of the single web below.

Tile used in the construction of fire and party walls shall be of such design that in a cross section through the wall there shall be not less than four (4) columns of tile bearing members, extending parallel with the face and for the full length of such walls.

No vertical joints shall extend unbroken through the entire thickness of any fire or party wall and all openings or offsets in such walls shall be constructed of tile having closed ends or, in tile with open ends, the openings shall be completely filled with fireproof material of a thickness back from the face of the opening not less than the required thickness of the wall.

Provided, however, that the above provisions in regard to tile shall not apply to hollow tile used in bearing walls of dwelling houses.

Tile shall not be used for foundation walls in any building.

Corbelled Walls or Ledges:

Section 33. Corbelled walls or ledges built to support beams, joists or floors, shall be of sufficient strength to safely carry the load to be imposed thereon.

Brick Walls, How Bonded:

Section 34. The Bond in brick-work shall be formed by laying one (1) course of headers for every six (6) courses of stretchers. If press brick facing is used, it must be bonded into the backing, and such bond shall be made with solid or blind headers, excepting only that where it is not practicable to use such headers, the face brick may be bonded with metal ties, if approved by the Inspector of Buildings.

Independent Height of Any Wall, During Construction:

Section 35. During the construction of any building, no wall shall be carried to a greater height than two (2) stories above any connecting wall of the same building. All walls shall be securely braced during construction.

Columns Supporting Walls:

Section 36. All columns supporting walls or floors shall have a true bearing at right angles to their axes, and shall be set plumb, without wedging.

Facings:

Section 37. Where the facing of any wall is four (4) inches or more in thickness, such facing shall not be considered as a part of the required thickness of the wall unless it is solidly bonded with the backing. No facing less than four (4) inches thick shall be counted in the required thickness of the wall of which it is a part.

In all cases where piers are faced with press brick, solid headers, bond stones or iron plates shall be used, if such facing is figured as carrying any of the load on the pier.

Exterior walls faced with stone shall have a backing of hard burned brick laid in Portland cement mortar, but in no case shall the facing be considered a part of the required thickness of wall, unless the facing is eight (8) inches or more in thickness and adequately bonded, without the use of metal anchors, into the backing.

All stone or other facing of any wall may be securely tied to the brick backing by means of metal

clamps or ties, but in that event such facing shall not be considered a part of the required thickness of the wall.

Stone or Terra-Cotta Cornices:

Section 38. In all cases, the greatest weight of any stone or terra-cotta cornice shall be on the inside of the face of the wall, or other means shall be taken to properly secure the same to the satisfaction of the Inspector of Buildings.

Walls Supporting Trussed Roofs:

Section 39. The outside walls of buildings having trussed roofs or ceilings, if such walls are more than fifteen (15) feet, and less than twenty-five (25) feet, in height, shall average at least sixteen (16) inches in thickness; if over twenty-five (25) feet in height and less than forty-five (45), they shall average at least twenty (20) inches in thickness; if over forty-five (45) feet in height, they shall average at least twenty-four (24) inches in thickness; exclusive of the gables. The above requirements shall apply to all walls one hundred (100) feet and under in length. If over one hundred (100) feet in length, such walls shall be increased four (4) inches in thickness, unless there shall be cross-walls of equal height. If solid buttresses are employed, with a sectional area of three hundred (300) or more square inches, placed not to exceed eighteen (18) feet apart, extending to, or nearly to, the top of the walls, four (4) inches may be deducted from the thickness of any wall, as above provided, having such buttresses.

Walls for Buildings of the Warehouse Class:

Section 40. The expression, "walls for buildings of the warehouse class", shall be taken to mean and include walls for the following named buildings and all other buildings not herein elsewhere specially provided for: Armories, barns, boiler-houses, breweries, carriage houses, churches, cooperage shops, factories, foundries, garages, libraries, light and power houses, machine shops, mills, museums, observatories, office buildings, police stations, printing houses, public assembly buildings, pumping stations, railroad buildings, refrigerating houses, slaughter houses, stables, store buildings, warehouses, wheelwright shops.

For buildings hereafter erected in the warehouse class, twenty-five (25) feet or less in width between walls or bearings, the minimum thickness of all independent surrounding or division walls in the same, carrying the loads of the floors and roofs, shall be made in accordance with the following table:

Outside, Party and Division Walls.	Rubble Basement	Brick or Concrete Basement	1st Story	2nd Story	3rd Story	4th Story	5th Story	6th Story	7th Story	8th Story	9th Story	10th Story	11th Story	12th Story
1 Story	18	12	12	—	—	—	—	—	—	—	—	—	—	—
2 Story	20	16	12	12	—	—	—	—	—	—	—	—	—	—
3 Story	20	16	16	12	12	—	—	—	—	—	—	—	—	—
4 Story	25	20	16	16	12	12	—	—	—	—	—	—	—	—
5 Story	30	24	20	16	16	12	12	—	—	—	—	—	—	—
6 Story	30	24	20	20	16	16	16	12	—	—	—	—	—	—
7 Story	30	24	20	20	20	16	16	16	12	—	—	—	—	—
8 Story	35	28	24	20	20	20	16	16	16	12	—	—	—	—
9 Story	35	28	24	24	20	20	20	16	16	16	12	—	—	—
10 Story	35	28	24	24	24	20	20	20	16	16	16	12	—	—
11 Story	40	32	28	24	24	24	20	20	20	16	16	16	12	—
12 Story	40	32	28	28	24	24	24	20	20	20	16	16	16	12

Bearing walls over one hundred and twenty-five (125) feet in length without cross walls or buttresses shall have the walls four (4) inches thicker than above required.

If there is to be a clear span of over twenty-five (25) feet between the bearing walls or supports, such walls shall be four (4) inches thicker than in this Section specified, for every twelve and one-half (12½) feet, or fraction thereof, in excess of such twenty-five (25) feet of clear span, or shall have, instead of the increased thickness, such piers or buttresses as, in the judgment of the Inspector of Buildings, may be deemed necessary.

Interior walls may be reduced in thickness, from the thicknesses above specified, whenever, in the judgment of the Inspector of Buildings, it is permissible to do so, but no such wall shall be less than twelve (12) inches in thickness.

The outside walls of all one (1) story buildings, covering not to exceed six hundred (600) square feet of ground area, if constructed of brick, concrete or tile, shall not be less than eight (8) inches in thickness.

Every building of the "warehouse class" hereafter erected in the City of Minneapolis, excepting warehouses, wholesale houses, factories, mills and grain elevators, shall be of fireproof construction if such building exceeds four (4) stories in height, except as hereinafter provided.

Warehouses, wholesale houses, factories and mills shall be of either mill construction or fireproof construction, if such buildings exceed four (4) stories in height. Provided, however, that all such buildings of "mill construction" shall have the stairs and elevators constructed within fireproof shafts, said stairways to be of fireproof construction, and there shall be provided automatic self-closing fireproof doors at all openings into such shafts, and no openings shall be allowed through the floors of such buildings except for belts for running machinery. Provided, further, that no building of "mill-construction" shall exceed eight (8) stories in height.

All partitions in buildings of "mill construction" shall be of either brick, tile or plank; if plank are used, they shall be at least three (3) inches in thickness, or metal studding and metal lath and plaster may be used.

If iron columns are used in buildings more than four (4) stories in height of "mill construction", said

columns shall be fireproofed the same as herein required for columns in fireproof buildings.

Buildings of Skeleton Construction:

Section 41. In all buildings of "skeleton construction", where the walls are carried by the metal frame, the masonry walls shall not be less than twelve (12) inches in thickness, for buildings of the "warehouse class", nor less than eight (8) inches in thickness for buildings of the "dwelling house class", and all such walls shall be thicker than herein specified whenever required by the Inspector of Buildings. The masonry for filler walls of skeleton construction shall be of either brick, tile or concrete, and there shall be provided for such buildings proper and sufficient wind bracing, wherever necessary.

All columns shall be made of rolled steel or iron, and the several sections and parts thereof shall be properly riveted or bolted together at their respective junction points, and the beams and girders shall be riveted or bolted to such columns at all connections. No cast iron lintels shall be used in buildings of skeleton construction. Provided, however, that a skeleton construction may be made of reinforced concrete, properly joined together at the junction points of the beams, girders and columns.

In all buildings of skeleton construction, less than ten (10) stories in height, the columns may be of cast iron. Such columns shall be properly bolted together with at least four (4) bolts, not less than three-fourths (¾) of an inch in diameter, at each connection, and the beams and girders shall be securely bolted to the columns.

Fireproof Buildings:

Section 42. No woodwork or other inflammable material shall be used in any of the walls, floors, roofs, partitions, furring or ceilings in any fireproof building, excepting, however, that the doors and window sash and their frames, except as herein otherwise provided, the interior finish of doors and windows, the baseboards and finish floor, and the nailing strips directly thereunder, may be of wood. Provided, however, that where buildings are eighteen (18) stories or more in height, no woodwork shall be used for such doors, frames, sash or interior finish.

All metallic structural members of every fireproof building shall be protected with a fireproof covering, and the materials which shall be considered as fulfill-

g the conditions of a fireproof covering are: First, ick; second, hollow tiles or burned clay, applied to e metal in a bed of mortar and constructed in such manner that there shall be an air space of at least ree-fourths (¾) of an inch within such hollow tile burned clay covering; third, porous terra cotta, hich shall be at least two (2) inches thick, if hollow, nd not less than one and one-fourth (1¼) inches ick if solid, and which shall also be applied direct to e metal in a bed of mortar; fourth, cement concrete, pplied direct to the metal, the concrete to be at least ne and one-half (1½) inches thick.

In all fireproof buildings, all load bearing door or indow mullions, whether vertical or horizontal, shall e faced with cast iron, terra cotta or other incombusible materials of equal fire-resisting value.

All iron or steel used as a supporting member of he external construction of any building, herein specied to be fireproofed, shall be protected against the ffects of external changes of temperature or of fire y a covering of brick, hollow tile, terra cotta or oncrete, completely enveloping said structural memers of iron or steel. If such fireproofing is of brick, t shall not be less than four (4) inches thick; if of ollow tile or terra cotta, it shall not be less than our (4) inches thick, and there shall be at least two 2) sets of air spaces between the iron and steel memers and the outside hollow tile or terra cotta covering; if of concrete, it shall not be less than one and ne-half (1½) inches thick.

In all cases where brick or hollow tile are used as ireproofing, they shall be bedded in mortar close up o the iron or steel members, and all joints shall be nade full and solid.

Where skeleton construction is used for the whole r a part of the building, the above mentioned envelping fireproofing materials shall be independently upported on the skeleton frame for each individual tory.

If iron or steel plates are used in each story for he support of such covering within the said story, uch plates shall be of sufficient strength to carry, within the limits of fibre strain for iron and steel elsewhere specified in this ordinance, the enveloping material for the said story.

If terra-cotta is used as a part of such fireproofing enclosure, it shall be backed up with brick or hollow tile; whichever is used being, however, of such dimen-

sions and laid up in such manner that the backing w be built into the cavities of the terra-cotta in su manner as to secure a perfect bond between the ter cotta facing and its backing.

If hollow tile alone is used for such enclosure, t thickness of the same shall be made in at least two (courses, breaking joints with and bonded into ea other.

The upper surfaces of all breaks or offsets in ext nal coverings and fillings of walls, as well as the to of walls, shall be covered with fireproof material.

Reinforced concrete shall be accepted as a firepro material, excepting, however, that cinder concre shall not be so considered.

Internal Fireproofing:

Section 43. The internal structural parts of fireproof buildings of skeleton construction shall fireproofed by coverings of brick, hollow tile, poro terra-cotta or cement concrete, in a manner approv by the Inspector of Buildings.

In all places where there is trucking or wheeli or other handling of packages, the lower five (5) f of the fireproofing of iron or steel columns shall encased in a protective covering, either of iron or o plank, which covering shall be kept continually in go repair.

The fireproof covering of iron or steel beams a girders shall be effected with either of the materi hereinbefore specified. If hollow tiles are used, th shall be set close to the metal to be protected; a there shall be an air space within the tiles of thr fourths (¾) of an inch.

If porous terra-cotta is used, it shall be at le two (2) inches thick, if hollow, and at least one a one-fourth (1¼) inches thick, if solid.

In all cases, the covering of beams, if of holl tile or porous terra-cotta, shall be so applied as to supported entirely by the beams or girders protect and shall be held in place entirely by the support the flanges of such beams or girders and by the mor used in setting. Wire binding and anchors shall not used as fasteners of such fireproof covering.

The filling between the individual iron or st *beams* supporting the floors of fireproof buildings sh *be made* of brick or hollow tile arches, or other to

and materials of fireproof construction may be used, if approved by the Inspector of Buildings; and the Inspector of Buildings may require a practical test to be made by the owner or contractor of the proposed construction, or by either of them, to determine its safe carrying capacity and its fire-resisting qualities. If brick arches are used, they shall not be less than four (4) inches thick and shall have a rise of at least one and one-fourth (1¼) inches to each foot of span between the beams. If the span of such arches is more than five (5) feet, the thickness of the same shall be increased as required by the Inspector of Buildings. The said brick arches shall be laid with close joints in Portland cement mortar, in proportions of not more than two (2) parts of sand to one (1) part of cement, by measure.

If hollow tile arches having a straight soffit are used, the thickness of such arches shall not be less than at the rate of one and one-half (1½) inches per each foot of span.

In all cases, whatever the material or form of the arches used, the protection of the bottom flanges of the beams and girders, and so much of the webs of the same as is not covered by the arches, shall be made as before specified for the covering of beams and girders.

Plastering on wire or metal lath shall not be considered as fireproofing, for steel or iron structural members.

Iron and Steel Construction:

Section 44. All iron or steel columns shall be made true and smooth on both ends, and at right angles to the axes of such columns, and shall rest on shoes or plates of iron or steel and shall have iron or steel caps which shall be made true, and such plates and caps shall be of size and strength sufficient to properly distribute the weights that may be imposed upon them. Provided, however, that in all buildings four (4) stories and over in height, such columns shall rest upon properly designed bridge-plates and shall be properly bolted to same.

All iron or steel trimmer beams, headers and tail beams shall be suitably framed and connected together, and all iron or steel girders, columns, beams, trusses or other iron or steel work shall be strapped, bolted, anchored and connected together in a strong and workmanlike manner, to be approved by the Inspector of Buildings.

Under the ends of all iron or steel beams, where

they rest on walls, stone or iron templates shall be built into the walls; said templates, if of stone, shall be not less than six (6) inches thick, and if of cast iron, at least one (1) inch thick, and such templates shall be not less than eight (8) inches wide and twelve (12) inches long, and in all cases shall be of such size and thickness as to properly distribute the loads upon the walls.

Floor Beams, Girders and Joists:

Section 45. Floor joists shall have a bearing of three (3) inches at each end on the walls supporting same.

All floor joists shall be provided with well-nailed cross-bridging at least once in every eight (8) feet in the length of the joists, and all such cross-bridging shall at least equal one (1) inch by three (3) inches in cross dimensions.

The ends of all joists and beams supported by brick walls shall be cut on a splay of three (3) inches in their depth.

Wherever joists, beams or girders have a bearing on each side of any fire or division wall, there shall be at least four (4) inches of solid brickwork between the ends of any such joists, beams or girders. If necessary, ledges shall be built by corbelling out such walls so as to properly support such joists, beams or girders.

All wooden beams and girders shall extend into or onto any wall a distance sufficient to develop the strength of said beams or girders.

Trimmers and Headers Hung in Stirrups:

Section 46. Every trimmer or header more than four (4) feet in length, used in the floors of any building, except in dwellings, shall be hung in stirrup irons of suitable strength for the weight to be supported thereby.

Partitions Directly Over Each Other, When:

Section 47. All main or bearing partitions supporting, in any manner, the floors or roof, shall be placed directly over each other, and shall rest on a wall, girder or hard pine capping, and shall be head and foot against each other as far as practicable.

Iron or Steel Girders to Rest on Stone Templates:

Section 48. Under the ends of iron or steel girders, supported by walls, stone templates shall be built into

the wall not less in width than four (4) inches less than the thickness of said walls, and not in any case less than six (6) inches in thickness and eighteen (18) inches in length, or iron wall plates not less than one (1) inch in thickness may be used in lieu of such stone template, but in all cases such iron wall plates shall be of sufficient length and thickness to properly distribute the loads upon the walls.

Floor Timbers Not to Enter Chimney Walls:

Section 49. All floor beams, joists and headers shall be kept at least one (1) inch clear of any wall enclosing a fire-flue or chimney breast.

Furred Walls or Chimneys:

Section 50. In all walls or chimneys furred with wood, two (2) courses of brickwork between the ends and opposite the wood beams or joists shall project the thickness of the furring beyond the inner face of the wall.

Scantling or Stud Partitions Not to Support Floor, When:

Section 51. Scantling or stud partitions shall not be employed to support any floor or roof, except where allowed in buildings of the dwelling house class and one (1) story store buildings.

Brick, Hollow Tile and Gypsum Block Partitions:

Section 52. The maximum allowable heights for non-bearing brick, hollow tile, and gypsum block partitions shall not exceed the following limits:

Eight (8) inch brick partitions	25 feet
Six (6) inch hollow tile partitions	18 feet
Four (4) inch hollow tile partitions	16 feet
Three (3) inch hollow tile partitions	12 feet
Three (3) inch gypsum block partitions	12 feet

The maximum allowable unsupported lengths for such partitions shall not exceed the following limits: Eight (8) inch brick partitions, 75 feet; six (6) inch hollow tile partitions, 55 feet; four (4) inch hollow tile partitions, 48 feet; three (3) inch hollow tile partitions, 30 feet; three (3) inch gypsum block partitions, 25 feet.

All such partitions shall be supported on proper foundations or on iron or steel girders and columns, or on piers of masonry.

Existing Party Walls:

Section 53. Walls heretofore built or used as party walls, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this ordinance, may be used if in good condition for the ordinary use of party walls, providing their use is approved by the Inspector of Buildings.

Lining Existing Walls:

Section 54. In case it is desired to increase the height of existing party walls or independent walls, which are less in thickness than required under this ordinance, the same shall be done by a lining of brickwork to form a combined thickness with the old wall, of not less than four (4) inches more than the thickness required for a new wall corresponding with the total height of the wall when so increased in height. The said lining shall be supported on proper foundations. No lining shall be less than eight (8) inches in thickness, and all lining shall be laid up in cement mortar and thoroughly anchored to the old brick wall with suitable wrought iron anchors placed two (2) feet apart and properly fastened or driven into the walls in rows alternating vertically and horizontally with each other, the old walls being first cleaned of plaster or other coatings where any lining is to be built against the same. No wall shall be lined less than twelve (12) inches in basement. All linings in basement must project four (4) inches beyond the lining in the first story; or skeleton steel or iron construction may be used, with posts and girders supporting each story and carried up to the full height of proposed buildings, and resting on sufficient footings.

Limiting the Height of Buildings:

Section 55. The height of any building hereafter erected within the City of Minneapolis shall not exceed one hundred and seventy (170) feet, nor shall any such building contain to exceed twelve (12) stories and an attic, and said attic shall only be used for the installation of the necessary machinery, piping and equipment for such building, except as hereinafter provided.

The height of any such building shall be measured at the middle point of the front wall of such building, from the sidewalk level at said point to the level of the highest point of the parapet of such building.

Provided, however, that a tower having an area of cross-section not exceeding twenty-five (25) per cent of the ground area occupied by any such building, nor in any case exceeding fifty (50) feet in either its width or length, may be constructed on such building, provided that no portion of such tower shall be allowed within sixteen (16) feet from the plane of the street facade of the building; except that where such tower is built facing a public park, public square or body of water, such tower may be built flush with the facade of said building, facing said park, public square or body of water. Provided, however, that the width of said tower shall not exceed twenty-five (25) per cent of the width of any such building. Provided, further, that said tower shall not at any time be used except for observatory and observation purposes, and provided further that hotel buildings of fireproof construction may be constructed and erected not to exceed fifteen (15) stories high, the total height of such buildings not to exceed 185 feet.

Pent houses for elevators, enclosures for tanks, stairway enclosures and photographers' printing-rooms may also be erected on any such building above the maximum height otherwise herein provided for such building, provided they are so constructed and so located on the roof thereof that at no point in their construction will they be at a less distance back from the plane of any street facade of such building than one (1) foot for every one and three-quarters (1¾) feet in the height of such point above such allowable maximum height for the building, and provided also that the total combined roof area covered by such pent houses, enclosures and printing-rooms shall in no case exceed twelve and one-half (12½) per cent of the total area of the building on which they are erected.

No non-fireproof building or structure hereafter erected shall exceed four (4) stories in height, excepting grain elevators, church spires and buildings of mill construction; provided, however, that in no case shall any building exceed in height the height herein permitted for buildings of their respective classes.

No frame building hereafter erected within the City of Minneapolis shall exceed two and one-half (2½) stories in height, nor shall any such building exceed five thousand (5,000) square feet in the area of any floor thereof, unless provided with fireproof division walls so placed that in no portion of any such floor shall more than five thousand (5,000) square feet of

floor area intervene between fireproof division walls or between any such fireproof division wall and the adjacent outside walls of such building.

Cornices, Projection of:

Section 56. No cornice or other projection hereafter erected or constructed on any building shall project more than three (3) feet beyond the plane of the street or facade of the building.

Height of Stories:

Section 57. The height of stories for all given thicknesses of walls, as provided by this ordinance, shall not exceed eleven (11) feet in the clear for the basement, eighteen (18) feet in the clear for the first story, fifteen (15) feet in the clear for the second story, and fourteen (14) feet in the clear for the average height of all stories above the second story. If any story shall exceed these respective heights, the walls of such story, and of all stories below the same, shall be increased four (4) inches in thickness over the thicknesses herein required.

Wooden Girders or Lintels Not Allowed, When:

Section 58. It shall be unlawful to erect, construct or build any masonry wall upon wooden girders, rafters or lintels. All such supports shall be of iron, brick, stone or concrete, and shall rest on sufficient stone or metal templates.

Timber Not Allowed in Brick Walls:

Section 59. Timbers shall not be used in any masonry wall where stone, brick or iron is commonly and properly used, except for arch-forms for interior arched openings, and such forms shall not rest on any wall exceeding two (2) inches.

Anchors:

Section 60. The end, side or party walls of any building shall be anchored at each tier of beams or joists at intervals of not more than ten (10) feet with wrought iron anchors at least three-eighths (⅜) by one and one-half (1½) inches, well anchored into the walls and fastened to the beams or joists. Where the beams are supported by girders, the ends of the beams resting on the girders shall be butted together, end to end, and well anchored to each other by wrought iron straps at least three-eighths (⅜) by one and one-half (1½) inches, at the same distance apart and at the same beams as the wall anchors.

All wall anchors shall extend to within four (4) inches of the opposite side of the wall, except in cases where they run through the wall.

Where Piers and Buttresses Are Used:

Section 61. The same amount of materials as is required for external walls may be used in piers or buttresses, provided the external walls between said piers or buttresses shall not be less than twelve (12) inches thick, except as herein provided.

Iron, Steel or Wooden Girders, Substituted for Walls, When:

Section 62. Iron, steel or wooden girders, supported on iron, steel or wooden columns, or on brick or stone piers, may be substituted in place of partition walls, except where otherwise specified in this ordinance, and shall be made of sufficient strength to safely bear the weight they are intended to support, and sufficient footings shall be provided to properly support said columns or piers.

Supports for Bearing Partitions:

Section 63. Bearing partitions of wood shall rest on walls or girders, or be placed directly over other bearing partitions, or the floor joists supporting such partitions shall be of sufficient strength to safely support the concentrated load occasioned thereby.

Caps or Bolsters on Wooden Columns:

Section 64. In all buildings two (2) or more stories in height and having wooden columns, there shall be placed on the top of each such column a cast, wrought iron or steel cap, or wooden bolster, so constructed as to form a base for the next column above and a bearing for the girder, and of sufficient size and strength to safely support the loads concentrated upon such cap.

Wooden Studding for Lath and Plaster Partitions:

Section 65. The size of studding used for plaster partitions shall not be of less dimension than one and three-fourths (1¾) inches by three and three-fourths (3¾) inches, and the maximum spacing of such studding shall not exceed sixteen (16) inches.

Lath and Plaster Walls and Partitions:

Section 66. Wherever there is a lath and plaster wall or partition, said lath and plaster shall extend to the floor, and on stairways, to the stair carriages.

Neat Cement:

Age	Strength Pounds
24 hours in moist air	175
7 days (1 day in moist air, 6 days in water)	500
28 days (1 day in moist air, 27 days in water)	600

One Part Cement, Three Parts Sand:

Age	Strength Pounds
7 days (1 day in moist air, 6 days in water)	200
28 days (1 day in moist air, 27 days in water)	275

Constancy of Volume:

Pats of neat coment about three (3) inches in diameter, one-half (½) inch thick at the center, and tapering to a thin edge, shall be kept in moist air for a period of twenty-four (24) hours.

(a) A pat is then kept in air at normal temperature and observed at intervals for at least twenty-seven (27) days.

(b) Another pat is kept in water maintained as near seventy degrees (70°) Fahrenheit as practicable, and observed at intervals for at least twenty-seven (27) days.

(c) A third pat is exposed in any convenient way in an atmosphere of steam, above boiling water, in a loosely closed vessel for five hours.

These pats, to satisfactorily pass the requirements, shall remain firm and hard and show no signs of distortion, checking, cracking or disintegrating.

Sand, Gravel and Crushed Stone:

All aggregates shall be screened. The fine aggregate shall consist of sand or gravel screenings, passing, when dry, a screen of three-sixteenths (3-16) inch diameter holes, or a screen having four (4) meshes to the linear inch. It shall be clean, coarse and free from vegetable loam, clay and other deleterious matter. A gradation of size of grain is preferred.

The coarse aggregate shall consist of crushed stone or gravel from which all fine grains shall have been removed on a screen having three-sixteenths (3-16) inch diameter holes or a screen having four (4) meshes to the inch. The particles shall be clean, hard, durable and free from all deleterious material and shall be small enough to pass a one (1) inch ring. Provided, however, that if crushed limestone is used for the coarse aggregate, it shall not contain any soapstone, shale or shaly phase of limestone.

METHOD OF FIREPROOFING.

Section 71. All reinforcing steel shall be completely imbedded in the concrete, and such steel shall be at least one and one-half (1½) inches from the exterior surface of all columns, beams and girders, and three-fourths (¾) of an inch from the under surface in floor slabs.

In every case where columns, beams and girders are used in the exterior walls of any building, for skeleton construction, they shall be covered in addition to the above one and one-half (1½) inches of concrete with four (4) inches of stone, brick or tile, or, in lieu thereof, they shall be provided with one and one-half (1½) inches of concrete fireproofing in addition to the one and one-half (1½) inches above provided, for columns, beams and girders. This regulation shall also apply wherever buildings are designed for a future increase in the area of the building.

ALLOWABLE STRESSES IN MATERIALS.

Section 72. Reinforced concrete shall be so designed that the stresses in the concrete and in the steel shall not exceed the following limits:

	Pounds per Sq. Inch
Extreme fibre stress on concrete in compression (1-2-4 mix)	650
Shearing stress in concrete	50
Concrete not reinforced (1-2-4 mix) in direct compression, in piers under five diameters in height, not to exceed	500
Where piers are twelve (12) diameters in height	300
(For intermediate heights, intermediate values shall be taken.)	
Concrete not reinforced (1-3-5 mix) direct compression, as in footings	208
Tensile stress, structural grade steel	16,000
Tensile stress, intermediate, hard grade and cold-twisted steel	18,000
Compression in steel	10,000

The tensile strength of concrete shall not in any case be considered.

The adhesion of concrete to steel shall be assumed to be seventy-five (75) pounds per square inch of surface, where bars are three-fourths (¾) of an inch or under in diameter, and porportionately less for bars

Maximum strains per square inch of rivet area (single shear) shall not exceed the following:

	Steel Lbs.	Iron Lbs.
For shop-driven rivets	12,000	7,500
For field-driven rivets and machine bolts	10,000	6,000
Direct bearing	24,000	15,000
Maximum shearing strains in webs	10,000	6,000

Cast Iron:

Cast iron, subject to crushing strains only, as in bearing plates, shall not be loaded to exceed fifteen thousand (15,000) pounds per square inch.

Cast Iron Columns:

Cast iron columns, both round and rectangular, shall be proportioned in accordance with the following formulae:

$s=9{,}000-40\ l/r.$

Let

s=safe fibre stress in pounds per square inch,

l=length of column in inches,

r=least radius of gyration of column in inches.

Allowable fibre stress per square inch shall be 8,600 pounds for lengths of ten (10) radii or under; reduced for lengths over ten (10) radii, up to and including 95 l/r.

The minimum thickness for cast iron columns shall not be less than three-fourths (¾) of an inch. No cast iron column shall exceed in height thirty (30) times its least horizontal dimension without having lateral support, but no cast iron column shall be of less diameter than five (5) inches.

The Inspector of Buildings may require columns to be drilled whenever he has any doubt as to the thickness of the metal in same.

Steel Columns:

The maximum loads allowed upon riveted columns shall not exceed those determined by the following formulae:

$s=19000-100\ l/r.$

s=safe fibre stress in pounds per square inch,

l=length of column in inches.

r=least radius of gyration of column in inches.

Allowable fibre stress per square inch shall be 13,000 pounds for length of 60 radii or under; reduced for lengths over 60 radii, up to and including 120 l/r.

No rolled steel column shall have an unsupported

Properties Considered.	Structural Steel Grade.		Intermediate Grade.		Hard Grade.		Cold Twisted Bars
	Plain Bars.	Deformed Bars.	Plain Bars.	Deformed Bars	Plain Bars	Deformed Bars	
Phosphorus, maximum:							
Bessemer	.10	.10	.10	.10	.10	.10	.10
Open-hearth	.06	.06	.06	.06	.06	.06	.06
Ultimate tensile strength, pounds per square inch	55/70,000	55/70,000	70/85,000	70/85,000	80,000 min.	80,000 min.	Recorded only
Yield point, minimum, pounds per square inch	33,000	33,000	40,000	40,000	50,000	50,000	55,000
Elongation, per cent in 8″, minimum	1,400,000 / T. S.	1,250,000 / T. S.	1,300,000 / T. S.	1,125,000 / T. S.	1,200,000 / T. S.	1,000,000 / T. S.	5%
Cold bend without fracture:							
Bars under ¾″ in diameter or thickness	180° d.=1t.	180° d.=1t.	180° d.=2t.	180° d.=3t.	180° d.=3t.	180° d.=4t.	180° d.=2t.
Bars ¾″ in diameter or thickness and over	180° d.=1t.	180° d.=2t.	90° d.=2t.	90° d.=3t.	90° d.=3t.	90° d.=4t.	180° d.=3t.

Wood Construction; Compression Across Grain:

	Pounds per Sq. Inch
Douglas fir	250
Yellow pine	250
White pine	200
Norway pine	200
White oak	500
Hemlock	150

Wooden Columns, Girders and Joists:

Wherever wooden columns are used, the maximum loads to which they shall be subjected shall not exceed those determined by the following formulae:

Where the height of wooden columns is twelve (12) times the least thickness, or less, let

S=total safe load in pounds,

A=sectional area of column in square inches,

C equals, for

Yellow pine, Washington or Oregon fir	5,000 pounds,
Oak, white	4,000 pounds,
Spruce	4,000 pounds,
Pine, Norway	3,800 pounds,
Pine, White	3,500 pounds,
Hemlock	3,000 pounds.

Then,

$$S=\frac{AC}{5}$$

Where the height of wooden columns is more than twelve (12) times their least thickness, let

S=safe load in pounds per square inch,

L=length of column in inches,

B=breadth of least side of rectangular column, or diameter of round column in inches;

X=1000 and

Y=10, for yellow pine, Washington and Oregon fir;

X=750, and

Y=7.5, for oak and Norway pine;

X=625, and

Y=6, for white pine and hemlock.

Then,

$$S=X-\left(\frac{L}{B}\right)$$

The ultimate loads to which timbers used for girders, beams or joists may be subjected shall not exceed those determined by the following formulae:

Let

S=total safe load in pounds,

B=breadth of girder, beam or joist in inches,

D=depth of girder, beam or joist in inches,

L=length of girder, beam or joist in feet,

C=180, for yellow pine, Washington or Oregon fir; 150 for oak; 120 for white or Norway pine and hemlock.

Then,

$$S=\frac{CBD^2}{L}$$

The contents of all the foregoing formulae are based upon the use of materials and workmanship of the best of their respective kinds.

All the formulae herein given for determining the loads permitted upon girders, beams or joists are for girders, beams and joists properly supported at both ends and uniformly loaded over their entire lengths.

The formulae for column loads are for columns concentrically loaded.

The calculations for the allowances which must be made for other methods of loading shall be based upon the rules of the best engineering practice.

In buildings of joist construction designed to carry loads of at least one hundred (100) pounds per square foot of floor area, the joists should not be less than one and seven-eighths (1⅞) inches in thickness.

The safe working capacity for timber, the formulae for computing which is not laid down in this ordinance, shall be computed by the formulae as given in the latest edition of "The Architect and Builders' Pocket Book", by F. E. Kidder.

Wind Pressure:

All structures exposed to wind shall be designed to resist a horizontal wind pressure of thirty (30) pounds for every square foot of surface thus exposed, from the ground to the top of the same, including roof, in any direction. In no case shall the overturning moment due to wind pressure exceed seventy-five (75) per cent of the moment of stability of the structure.

In all structures exposed to wind, if the resisting moments of the ordinary materials of construction, such as masonry partitions, floors and connections are not sufficient to resist the moment of distortion d' to wind pressure, taken in any direction on any p' of the structure, additional bracing shall be introdu sufficient to make up the difference in the moments

In all calculations for additional wind bracing,

rups are well anchored at the top and bottom as required by the allowable bond stresses given in this ordinance, and are of steel rods not less than three-eighths (3-8) of an inch in diameter. The maximum spacing of the stirrups shall in no case exceed one and one-half (1½) times the effective depth of the section. The maximum vertical shear on the concrete shall not exceed one hundred and twenty (120) pounds per square inch of the section.

ASSUMPTION FOR COMPUTATIONS.

Section 81. The bond between concrete and steel is assumed to be sufficient to make the two materials act together as a homogeneous solid, and the stress in any fibre is assumed to be directly proportionate to the distance of that fibre from the neutral axis.

DEPTH OF BEAMS AND GIRDERS.

Section 82. The dimensions of a beam or girder and its reinforcements shall be determined and fixed in such a way that the strength of the metal in tension shall measure the strength of the beam or girder. If the concrete in compression, including the allowable concrete in adjoining floor construction, does not afford sufficient strength for the purpose, the compression side of the beam or girder in question shall also be reinforced.

Beams and girders shall, whenever it is practicable, be proportioned so that the depth shall at least equal one-twelfth (1-12th) of the span.

CONTINUOUS CONSTRUCTION.

Section 83. Wherever possible, beams and girders, and also the intermediate floor construction, shall be made continuous. Reinforcing metal shall be used for that purpose in the top of all connecting members at the point of support, and it shall be sufficient both in section and length to prevent excessive stress or fracture at the point of support.

FLOOR SLABS, SUPPORTED BY BEAMS, GIRDERS, OR WALLS.

Section 84. The reinforcing metal in the bottom of floor slabs, which are supported by beams, girders or walls, shall be deflected to the top of the slab along the line of support, or separate reinforcing material

shall be used for the slab reinforcement in the top of the slab. In either case, however, if a part of a slab is considered as a part of a beam or girder, the reinforcing material used in the slab shall cross the full width of both beams and girders and also of the part of the slab so considered.

In calculating the strength of slabs, beams and girders, it will be assumed that the compression area is triangular in form, and that the unit stress varies directly as the distance from the neutral axis.

The minimum distance, center to center, of reinforcing rods in slabs shall not be less than the maximum diameter of the rod in cross-section plus two (2) inches.

The maximum distance of the spacing of rods in slabs shall not exceed twice the effective depth of the slab.

Only in extreme cases, and then only when permitted by the Inspector of Buildings, shall reinforcing rods for slabs exceed forty-one hundredths (.41) of a square inch in area, nor shall any unfabricated steel rods of a less diameter than five-sixteenths (5-16) of an inch be used for slab reinforcement.

Wherever reinforced hollow-tile slab construction is used, the minimum width of the concrete joists between the hollow tile shall be not less than five (5) inches, and the concrete over said tile shall be poured continuously with the casting of said concrete joists. In designing said construction, where the distance between joists is twelve (12) inches or less, the minimum depth of said concrete above the tile shall be at least two (2) inches wherever the depth of tile required is six (6) inches or less, and wherever the depth of tile required is more than six (6) inches, the minimum depth of said concrete above the tile shall be at least two and one-half (2½) inches. Wherever the distance between joists exceeds twelve (12) inches, the minimum depth of said concrete above tile shall be not less than two and one-half (2½) inches, or more when deemed necessary by the Inspector of Buildings.

The reinforcing steel rods for such construction shall not exceed forty-one hundredths (.41) of an inch in area for each such rod. Broken tile shall not be used in such hollow-tile slab construction, and at the time the slab is poured the tile shall be thoroughly wet, if the temperature is above freezing.

TEMPERATURE AND SHRINKAGE STRESSES.

Section 85. To resist temperature and shrinkage stresses in floor and roof slabs, of the one-way hollow

tile and concrete joist type, reinforcing steel not less than one thousand one hundred and four ten-thousandths (.1104) of a square inch in area shall be placed in the concrete at right angles to the slab reinforcing at intervals not exceeding twenty-four (24) inches.

MINIMUM THICKNESS OF SLABS.

Section 86. The minimum thickness of concrete for all floor and roof slabs shall be not less than one thirty-second (1-32) of the clear span; provided, however, that no concrete floor slab shall be less than four (4) inches, and no concrete roof slab shall be less than three and one-half (3½) inches in thickness.

BENDING MOMENTS.

Section 87. Bending moments for uniformly distributed loads shall be figured as follows:

Slabs, Supported by Beams, Girders or Walls:

(a) Reinforced one way and resting free upon supports at two sides,

$$M = \frac{w\,l^2}{8} \text{ at center of span,}$$

(b) Reinforced two ways and resting free upon supports at four sides,

$$M = \frac{w\,l^2}{16} \text{ at center of span,}$$

(c) Slabs continuous over more than two supports and reinforced one way,

$$M = \frac{w\,l^2}{12} \text{ at center of span and at support,}$$

(d) Slabs continuous over more than two supports and reinforced two ways, $M = \frac{w\,l^2}{24}$,

(e) End spans of (c) and (d), $M = \frac{w\,l^2}{10}$ and $M = \frac{w\,l^2}{20}$ respectively,

(f) Slabs continuous for two spans only, $M = \frac{w\,l^2}{8}$ at the central support, and $M = \frac{w\,l^2}{10}$ near middle of the span.

Beams:

(a) Resting free upon supports at two ends, $M = \frac{WL}{8}$ at center of span,

(b) Resting free upon support at one end and continuous at the other end, $M=\frac{WL}{10}$ at center of span and over support at continuous end,

(c) Continuous at both ends, $M=\frac{WL}{12}$ at center of span and over supports,

(d) Wherever the walls of reinforced concrete buildings are of skeleton construction, the bending moments at center and at adjoining support, for the end spans, $M=\frac{WL}{10}$,

(e) Beams continuous for two spans only, $M=\frac{WL}{8}$ at the central support, and $M=\frac{WL}{10}$ near the middle of the span.

When the slab, beam or girder is continuous over its supports, reinforcement shall be fully provided at points of negative moment.

Special consideration and provision shall be given and made in case of concentrated loads.

TEE BEAMS.

Section 88. In beam and slab construction, an effective bond shall be provided at the junction of beam and slab. When the principal slab reinforcement is parallel to the beam, transverse reinforcement shall be used extending over the beam and wall into the slab, and where adequate bond between slab and web of beam is provided, the slab may be considered as an integral part of the beam, but its effective width shall be limited by the following rules:

(a) It shall not exceed one-fourth (¼) of the span length of the slab.

(b) Its overhanging width on either side of the web shall not exceed four (4) times the thickness of the slab.

Provided, however, that no allowance shall be made for such joint action of slab and beam as a tee-beam unless the concrete in the slab and the concrete in the beam are placed at the same time.

FORMULAE FOR BEAMS, GIRDERS, AND SLABS, SUPPORTED BY COLUMNS, BEAMS, GIRDERS, AND WALLS.

Section 89. Let

w=Dead and live load per square foot,

W=The total dead and live load,

Openings for pipes, etc., shall be located before the concrete is poured, and additional reinforcing and concrete shall be added, if necessary, to carry the

Placing of Steel:

29. In order that the slab bars shall be maintained in the position shown in the design, during the work of pouring the slab, spacers and supports shall be provided satisfactory to the Inspector of Buildings. All bars shall be secured in place at intersections by wire or other metal fastenings. In no case shall the spacing of the bars exceed nine inches (9″). The steel to resist the negative moment in each strip B shall extend one-quarter (¼) of the panel length beyond the center line of the columns in both directions.

30. All splices in bars shall be made over the column head. The length of the splice beyond the center line of the column in both directions shall be at least two (2) feet, nor less than that necessary for the full development of the strength of the bar, as limited by the unit bond stresses given by this ordinance. The splicing of adjacent bars shall be avoided so far as possible.

31. Slab bars which are lapped over the column, the sectional area of both being included in the calculations for negative moment, shall extend not less than twenty-five one-hundredths (.25) of the panel length for cross-bands, and thirty-five one-hundredths (.35) of the panel length for diagonal bands, beyond the column center.

General:

32. The design and execution of the work shall conform to the provisions of the Minneapolis Building Ordinance, and to correct principles of construction.

33. All other systems of flat slab designs differing from the two and four-way systems herein provided for shall be figured in accordance with the values herein given, and in a manner approved by the Inspector of Buildings.

TESTS MADE BY THE OWNER OR CONTRACTOR ON DEMAND:

Section 91. The owner and contractor shall be pre*pared to,* and shall, make tests on any portion of a *reinforced* concrete structure within a reasonable time

after erection, as often as may be required by the Inspector of Buildings, and under his direction. If, in the opinion of the Inspector of Buildings, the stresses in any reinforced concrete construction exceed the amounts allowed in this ordinance, he may require, at his discretion, either a deflection test, or an instrument test, as outlined below, or he may require both of these tests to be made.

Test of Workmanship:

The Inspector of Buildings or his representative may choose any two or more adjacent panels in the building for the purpose of ascertaining the character of workmanship.

Instrument Test:

Such tests, when made sixty (60) days after the concrete is in place, where the temperature has been continuously above seventy-five degrees (75°) Fahrenheit, or ninety (90) days after the concrete is in place, where the temperature has been continuously above sixty degrees (60°) Fahrenheit, or when in the opinion of the Inspector of Buildings the concrete shall have been properly cured, shall show that the construction will sustain a load, for at least twenty-four (24) hours, and longer if required by the Inspector of Buildings, equal to that which it is designed to carry, without stressing either the concrete or the steel in excess of the stresses allowed by this ordinance. The actual stresses on the concrete and steel shall be determined by the results obtained by means of extensometer readings taken by an engineer, approved by the Inspector of Buildings.

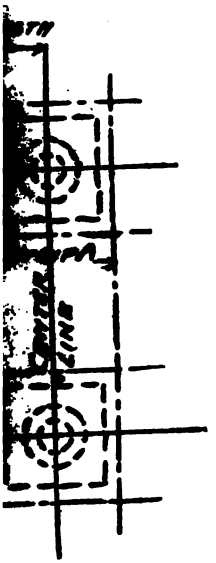
Any and all concrete work or materials that do not develop the strength required by this ordinance without exhibiting undue deflection, cracks or signs of excessive stress of the materials of which it is composed, shall be condemned and removed from the premises, when so ordered by the Inspector of Buildings.

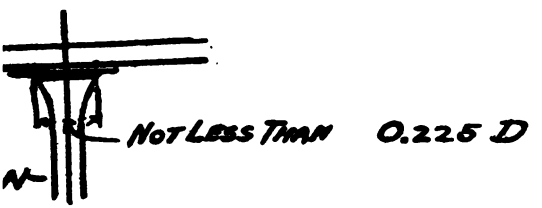
Provided, however, that the Inspector of Buildings may card a building for the safe load, as shown by the extensometer readings, provided that such building is not used for any purpose requiring, under this ordinance, a greater safe load.

Deflection Test:

The test shall not be made until, in the opinion of the Inspector of Buildings, the concrete is thoroughly cured.


D = PANEL LENGTH
CENTER LINE
MIN. TOTAL THICKNESS
DROP PANEL
NOT LESS THAN 1/15 D


SPRING LINE


NOT LESS THAN 0.225 D

All deflections under test load shall be taken at the center of the slab, beam or girder, and shall be measured from the normal unloaded positions of the slabs, beams or girders. At least two panels, and more when required by the Inspector of Buildings, shall be selected and shall be uniformly loaded over their entire area with a load equal to twice the live load. The load shall remain in place not less than twenty-four (24) hours. If the total deflection in the center of the panel under the test load does not exceed one eight-hundredth (1-800) of the panel length for slabs or one-thousandth (1-1000) of the span for the beams or girders, the slab may be placarded to carry the full design live load. If it exceed this amount of deflection, and recovers not less than eighty per cent (80%) for slabs, and ninety per cent (90%) for beams or girders, of the total deflection within seven (7) days after the load is removed, the floors may be placarded to carry the full design live load. If the deflection exceeds the allowable amounts above specified, and the recovery is less than eighty per cent (80%) for slabs and ninety per cent (90%) for beams or girders in seven (7) days after the removal of the test load, other tests shall be made on the same or other panels, the results of which will determine the amount of live load the floor will be permitted to carry.

REINFORCED CONCRETE COLUMNS:

Section 92. In reinforced concrete columns, the ratio of length to least side or diameter of the reinforced concrete core, including the reinforcements, shall not exceed fifteen (15). (See special provision relating to columns, under heading, "Reinforced Concrete Flat Slab Construction.")

In computing the strength of reinforced concrete columns, only the concrete within the inside core limits, or diameter, of the ties, bands, hooping or spirals shall be considered as effective area.

There shall be provided at least one and one-half (1½) inches of concrete fireproofing on the outside limits, or diameter, of the ties, bands, hooping or spirals, and such concrete shall not be figured as effective area.

In every case where columns are used in the exterior walls of any building, for skeleton construction, they shall be covered, in addition to the one and one-half (1½) inches of concrete, with four (4) inches of stone, brick or tile, or, in lieu thereof, they shall be provided with one and one-half (1½) inches

of concrete fireproofing in addition to the one and one-half (1½) inches above provided. This regulation shall also apply wherever buildings are designed for a future increase in the area of the building.

In designing reinforced concrete columns, the architect or designer shall show, or specify, the inside and outside diameter of the hooping, the size of the hooping, and the one and one-half (1½) inches of fireproofing above provided for.

All hooped columns shall have at least one-half (½) of one per cent (1%) of hooping, figured as imaginary verticals, and not to exceed one and one-half per cent (1½%) of hooping.

Where vertical reinforcing rods are used in concrete columns, there shall be provided not to exceed five per cent (5%) of such vertical reinforcement.

Minimum Size:

No reinforced concrete column shall be used whose least side or diameter, including the protection against fire and corrosion, is less than twelve (12) inches.

Square Columns, Hennebique Type:

In the Hennebique type of column, where eight (8) rods are used and the maximum tie-spacing does not exceed twelve (12) inches, and in no case more than seven (7) times the diameter of the vertical rods, and the minimum area of the ties is at least one thousand one hundred and four ten-thousandths (.1104) of a square inch in area, and two (2) sets of ties are used, and one (1) tie in the form of a square inscribed within the outer tie, and the ends of the ties secured in the core in such a manner as will fully develop the allowable stresses of the ties, the following values shall not be exceeded:

10,000 pounds per square inch on the vertical steel,
650 pounds per square inch on the concrete within the core.

The hooping or ties for such columns shall not be considered as adding directly to the strength of said columns.

Round Core Columns:

For round core columns vertically reinforced and hooped with circular bands or spirals, the vertical rods shall not be less than four (4) in number nor the area of cross-section of each rod less than six thousand and thirteen ten-thousandths (.6013) of a square inch, the spirals shall *not* be less than four hundred

and ninety-one ten-thousandths (.0491) of a square inch in area of cross-section, and the spacing of the spirals, if such are used, shall in no case exceed one-seventh (1-7) of the diameter of the core, without reducing the values hereinafter given for the concrete in a ratio of fifty per cent (50%) of the proportional increase in the spacing. Provided, however, that in cases where properly welded bands are used and there are enough vertical rods of proper area to give the same restraint as a grill, the spacing of the bands shall not exceed, for the values hereinafter given, seven (7) times the diameter of one of such vertical rods. The following values shall not be exceeded for either of the foregoing conditions:

10,000 pounds per square inch on the vertical steel,
800 pounds per square inch on the concrete, and
16,000 pounds per square inch on 2.4 times the volume of the hooping considered as imaginary verticals, provided that the spirals are continuous, machine made and provided with accurate spacers.

Formulae for Computing the Strength of Columns:

In computing the strength of the types of columns above specified, the following formulae shall apply:

X=Safe load,
Ac=Net area of concrete within the ties,
As=Net area of vertical steel,
fc=Allowable compression on concrete,
fs=Allowable compression on vertical rods,
As'=Net volume of the ties figured as imaginary verticals,
fs'=Allowable unit stress on ties.

Then, for square columns, eight rod type:

$X=Acfc+Asfs$.

And for round columns:

$X=Acfc+Asfs+2.4\ As'\ fs'$

For the columns subject to eccentric loading or bending of an indeterminate amount, the above stresses shall be reduced twenty per cent (20%).

When the bending stresses in a column can be definitely determined, the combined bending and direct stresses shall not exceed the limits placed by this ordinance.

Column Splices:

In all buildings hereafter to be erected, the column *splices shall* be made in such manner as to transmit *the stresses* for which they are designed. The connec-

tion shall be made by turnbuckle, sleeve nut, slip sleeve or by lapping the rods and bolting together in such a manner that the stresses will be transmitted properly. If the device used requires the rod to be threaded, the effective area shall be taken at the root of the thread. If a slip sleeve is used, the rods must have their ends milled or equal, the diameter of the sleeve to be not over one-sixteenth (1-16) inch larger than the diameter of the rod. Where the bearing is made metal to metal, the contact shall be made so as to transmit all stresses properly. Where the rods are in tension due to wind stresses, the connection shall be made by means of a positive connection. The use of pipe sleeve connections is prohibited unless they fit the rods as above described. All column steel shall set directly in line with the steel below and must be constructed in such a manner as to eliminate any short bends in the steel. The steel reinforcement shall be spliced at such a point above the floor that the bond stress in the rod is developed enough to carry the increased load transmitted to it.

Where column vertical reinforcing bars exceeding one and one-half (1½) inches in diameter abut end to end, and the connection is made by means of slip sleeves as specified above, the value of the column vertical reinforcing bars thus spliced shall be reduced by twenty-five per cent (25%).

In tall and narrow buildings, special provision shall be made for the tension in columns.

REINFORCED CONCRETE WALLS:

Section 93. Walls having a complete skeleton of steel, or of reinforced concrete construction, or a combination of both, designed to safely resist all of the stresses caused by the dead loads of the structure and the live loads and the wind pressure, within the safe limits of stress as provided in this ordinance for each material used, may have curtain walls of reinforced concrete, provided that such curtain walls are proportioned and reinforced in a manner approved by the Inspector of Buildings.

FOOTINGS:

Section 94. All columns shall be supported by footings of proper design, depth and area to safely transmit the loads to the soil, and proper bearing plates or reinforcement shall be provided under the

foot of the columns to properly distribute the loads on the footings.

PART X.

GRAVITY TANK CONSTRUCTION.

Section 95. The following specifications shall govern in the construction and installation of all gravity tanks and of the structure supporting the same.

Foundations:

The foundation supporting any gravity tank shall extend below the frost line to a proper bearing surface, and shall be of concrete or other substantial materials so designed as to safely support the loads to which it may be subjected.

Supporting Structure:

The structure supporting any gravity tank shall be composed of solid masonry, steel or reinforced concrete, or of a combination of these materials.

Wood shall not be used in any of the supporting members for such tanks.

Whenever steel is used for the supporting members for such tanks, the maximum allowable tensile stress for such steel shall not exceed twelve thousand (12,000) pounds per square inch. All steel used in any such structure shall be thoroughly riveted together and the allowable shearing stress on such rivets shall not exceed six thousand seven hundred and fifty (6,750) pounds per square inch for single shear for shop-driven rivets, or six thousand (6,000) pounds for field driven rivets, and the allowable bearing stress on such rivets shall not exceed twelve thousand (12,000) pounds per square inch. Bolts shall not be used in place of rivets for such work. All such steel work to be thoroughly painted, and to be maintained in such condition.

Wherever possible, the trestle work supporting gravity tanks shall be designed with large members, and as few as possible for safe construction, rather than with a larger number of members of less individual area of cross-section. The minimum allowable thickness for steel employed in the construction of any gravity tank trestle work shall be five-sixteenths (5-16) of an inch. The uprights or column members of any gravity tank trestle work erected on the top wall of any building shall be securely anchored to the walls of such building, and wherever such trestle work is built up from the ground, it shall be securely

bolted to the foundation supporting the same. The maximum load on brick-work supporting gravity tanks shall not exceed five (5) tons per superficial foot of bearing area, when lime mortar is used for such brick-work, and shall not exceed eleven (11) tons per superficial foot when Portland cement mortar is used.

If gravity tanks are located on buildings, they shall, wherever it is practicable to so place them, be located on the top of an elevator or stair tower, and supported directly on solid masonry.

Every part of any steel work within any building, supporting a gravity tank, shall be fireproofed with at least one and one-half (1½) inches of concrete, or two (2) inches of well burned tile and plaster.

All tanks supported on trestles shall have a substantial platform at least twenty (20) inches in width around such tanks, located near the level of the bottom of such tanks. Such platform shall be surrounded by a substantial railing at least thirty (30) inches in height.

There shall be an open space of at least one and one-half (1½) inches between the floor of said platform and the tank, to allow for drainage.

Engineers and architects, when submitting plans to the Building Department for approval for the trestle work or supports of gravity tanks, shall specify the size of tank to be used, together with the weight of the tank and the maximum weight of water it will contain.

Tank Ladders:

A substantial permanent ladder shall be constructed and maintained, extending from the ground to a point sufficiently above the tank to give easy access through a trap door, at least twenty by twenty-six (20x26) inches, to the interior.

WOODEN TANKS.

Wooden gravity tanks shall be constructed of either cedar, cypress, white pine or redwood lumber, which shall be straight grained and free from season checks; the staves and bottom of the tank to be made of two and one-half (2½) inch stock, dressed to about two and one-fourth (2¼) inches, for tanks not exceeding sixteen (16) feet in diameter or sixteen (16) feet in depth; for larger tanks, three (3) inch stock, dressed to about two and three-fourths (2¾) inch, to be used; staves to be sawed to the proper bevel to make true joints and correct taper. The groove for receiv-

ing the tank bottom shall be cut in a true line at a uniform distance from the bottom end of the stave, and not deeper than hereinafter provided. The bottom planks shall be dressed on four sides, and the adjoining edges of such planks properly bored with holes not more than three (3) feet apart, of proper diameter to receive five-eighths (5-8) inch dowels, which shall be inserted in said holes. The taper in said tanks shall be not less than one-half (½) inch per foot, and not more than one (1) inch per foot, in the height of such tanks.

Tank Hoops:

The material for the hoops shall be of wrought iron, or mild steel of good quality. Such wrought iron shall have a tensile strength of at least fifty thousand (50,000) pounds per square inch, and such steel a tensile strength of from fifty-five thousand (55,000) to sixty thousand (60,000) pounds per square inch. The elastic limit shall be not less than one-half (½) the ultimate strength, and the elongation at least twenty-five per cent (25%). The cold bend shall be one hundred and eighty (180) degrees, flat on itself, without fracture on outside of bent portion.

All hooping for wooden tanks shall be round, in cross section. The hoops shall not be welded, and, wherever it is necessary to make a splice, lugs shall be used. Hoops with upset ends shall not be used. The hoops shall be of such size, and so spaced, that the stress shall not exceed twelve thousand five hundred (12,500) pounds per square inch, when computed at the base of the thread. No hoop less than three-fourths (¾) of an inch in diameter shall be used.

The following table gives proper working strength for hoops of common sizes, based on the above allowable fibre stress:

(See table on next page)

Extra Hooping, Where:

On account of the swelling of the bottom planks, the hoops near the bottom may be subjected to a greater strain than that due to water pressure; therefore, additional hoops shall be there provided. For tanks less than twenty (20) feet in diameter, one hoop of the size used next above it shall be placed around the bottom of the tank, opposite the groove and not higher than the center line of the tank bottom, and such additional hoop shall not be figured as withstanding any water pressure. For tanks twenty (20) feet or more in diameter, two (2) such additional

Diameter of Round Rod, Inches.	Area of Section of Rod, Sq. Inch.	Net Area at Root of Thread, Sq. Inch.	Safe Working Pounds.
¾	.44	.30	3,750
⅞	.60	.42	5,250
1	.79	.55	6,875
1⅛	.99	.69	8,625

The spacing of hoops shall be figured by the following formulae:

$$\text{Spacing of hoops in inches} = \frac{\text{Safe load for given hoop in pounds}}{\text{2.6x diameter in feet x depth in feet}}$$

, "depth" referring to distance from overflow to point where center of hoop is to be located.

The top hoop shall be placed within two (2) inches of the top of staves, in order that overflow pipe may be inserted as high as possible. No space between hoops shall exceed twenty-one (21) inches, and the hoops shall be so placed that the lugs will not come over each other in a vertical line.

hoops shall be used. All hoops shall be thoroughly cleaned of mill scale and rust and given one coat of paint made of red lead, lampblack and boiled linseed oil, the red lead and lampblack to be ground in the oil and applied to the hoops before such tank is erected.

Lugs:

The lugs shall be as strong as the hoops, and shall be of malleable iron, or cast iron. If cast iron lugs are used, they shall be made extra heavy.

Supports:

The weight of the tank shall be supported entirely from its bottom, and in no event shall the weight be supported by the bottom of the staves. The supports on which the tank bottom directly rests should cover at least one-fifth (1-5) the area of such tank bottom and be not more than eighteen (18) inches apart, and they shall be of such thickness that the bottom of the staves shall have at least one (1) inch of clearance between them and any portion of the supporting structure. The material for the tank shall not be left exposed to the weather before it is set up, and shall not be allowed to remain empty after it is set up.

STEEL TANKS.

The work of construction and erection of steel tanks shall be done only by skilled workmen.

Plates:

All steel used in the construction of steel tanks shall be made by the open hearth process. All steel used in the construction of such tanks shall have an ultimate strength of from fifty-five thousand (55,000) to sixty-five thousand (65,000) pounds per square inch. All such steel shall withstand a cold bending test of one hundred and eighty degrees (180°), flat upon itself, on a diameter not greater than the thickness of the plate, without fracture of the outside bent surface.

Rivets:

All rivets shall be made by the open hearth process. Rivet steel shall have an ultimate strength of from forty-eight thousand (48,000) to fifty-eight thousand (58,000) pounds per square inch. The elastic limit of rivet steel shall not be less than one-half of

strength. Rivet steel shall withstand a
f one hundred and eighty degrees (180°),
lf, without fracture of the outside bent
maximum allowable shearing stress on
ven rivets shall not exceed six thou-
ndred and fifty (6,750) pounds per square
field-driven rivets it shall not exceed
(6,000) pounds per square inch, and the
shall be figured at thirteen thousand
(13,500) pounds per square inch. Rivets
ull heads, concentric with rivet, of a
s than six-tenths (6-10) of the diameter.
of rivet holes shall not exceed by more
enth (1-16) inch the diameter of the rivet
et holes shall be clean cut, without torn
ges.

safe working stresses are not given, a
ety of five (5) shall be provided. All
l shall be made cold. This applies to
of tank plates, both sides and bottom.
ll be accurately spaced.

f drift pins will be allowed only for
several parts together, and shall not
ith such force as to disturb the metal
ole.
ll be made absolutely water tight by
. No foreign substances of any descrip-
put into the joints between plates. Caulk-
done before painting, and in such a way
ure the abutting plates.

l be painted inside and outside as often
ecessary to prevent corrosion.

CONCRETE TANKS.

experienced in reinforced concrete work
ved to erect concrete water tanks.

als used in the construction of concrete
shall be of the best of their respective

PART XI.

FLOOR AREAS.

Restricted Floor Areas:

Section 96. Buildings used for the sale, storage or manufacture of merchandise, except grain elevators, if more than one (1) story in height, or so designed as to allow for additional stories above the first story, shall have fireproof division walls as follows:

For buildings of ordinary construction, there shall be provided fireproof division walls, if the ground floor area exceeds six thousand (6,000) square feet. Provided, however, that if, in any such building, all elevator shafts, stairways and other openings through the floors are enclosed within walls of brick, concrete or other fireproof material approved by the Inspector of Buildings and are provided with approved automatic self-closing fireproof doors at all openings in such walls, and each of such stairways is of fireproof construction, and there is installed and maintained in such building an automatic sprinkler service approved by the Department of Buildings, and either a night and Sunday watchman or other approved supervisory service is maintained in said building, said ground area may in such building be increased to not more than twelve thousand (12,000) square feet without fireproof division walls if such building exceeds two (2) stories in height, and to not more than sixteen thousand (16,000) square feet without fireproof division walls if such building does not exceed two (2) stories in height.

For buildings of mill construction, there shall be provided fireproof division walls, if the ground area exceeds twelve thousand (12,000) square feet.

For buildings of fireproof construction, there shall be provided fireproof division walls, if the ground floor area exceeds thirty thousand (30,000) square feet.

All such above mentioned division walls shall be of such thickness as herein provided for outside walls for buildings of the warehouse class.

All openings through such walls shall have, on each side of same, approved, automatic, self-closing standard fireproof doors or shutters of a type approved by the National Board of Fire Underwriters.

No openings through any division wall shall exceed eight (8) feet in width or ten (10) feet in height, and, above each such opening, there shall be a certain wall, between the top of the opening and the ceiling line, of at least three (3) feet in height.

Unrestricted Floor Areas:

Section 97. Buildings of fireproof or mill construction, having all elevators, stairways and other openings through the floors enclosed with walls of brick, concrete or other fireproof material and provided with approved automatic self-closing fireproof doors at all openings in such walls, may be constructed without restriction as to ground floor area, provided such buildings are equipped with automatic sprinkling devices throughout every story, installed in a manner approved by the National Board of Fire Underwriters.

PART XII.

STAIRWAYS AND EXITS.

Section 98. The requirements governing the number, width and construction of stairways in buildings other than those enumerated below in the various classes, shall be determined by the Inspector of Buildings.

Note: The requirements governing the number, width and construction of stairways in theaters, opera houses, auditoriums (other than those in school or convent buildings), churches, concert and public halls are contained in the Theater Ordinance.

Outside Exit From Boiler-Room:

Section 99. Every building in which boilers or machinery are placed in the basement or in a lower story shall have stationary ladders or stairs leading direct from such basement or story to a manhole in the sidewalk above or to some other outside exit, and there shall be unobstructed access from the boiler or machinery room to such ladder or stairs.

Circular or Elliptical Stairways; Winders Prohibited:

Section 100. Stairways hereafter erected shall not be spiral stairways or have any winders; provided, however, that circular or elliptical stairways may be used if the width of tread one foot from the center of the handrail next to the well hole is nine and one-half inches, including nosings; provided, further, that the location of such circular or elliptical stairways and the purposes they are to serve shall be subject to the approval of the Inspector of Buildings.

Stairways in Buildings Used in Part for Garage Purposes:

Section 101. In every building hereafter erected or altered, the basement or first floor of which is used as a garage, all stairways from the garage to any floor

above not used as a part of the garage shall be enclosed within fireproof walls and all doors and windows in such stair enclosure shall be of fireproof material.

Outside Stairways of Wood Within Fire Limits, When:

Section 102. Outside stairs constructed of wood and in a substantial manner, if approved by the Inspector of Buildings, may be erected in the rear of buildings within the Fire Limits.

Stairways, Obstruction or Change of:

Section 103. Approaches to stairways shall under no circumstances be closed up or obstructed in any manner. No change in the construction or location of any stairway shall be made without the approval of the Inspector of Buildings.

Stairways, How Arranged:

Section 104. Stairways shall be located as far from each other as practicable. The bottom of each stairway shall be in the immediate vicinity of the top of the stairs leading to the next lower story and the line of travel from stairway to stairway shall be direct and easily accessible each from the other.

Each Stairway to Extend from First to Top Story:

Section 105. In all buildings of Classes I and III, as provided for in this section of this ordinance, the whole number of stairways required for each building shall be complete in every respect from the first to the topmost story.

Stairway to Roof:

Section 106. In all buildings of each class so provided for in this section, except dwelling houses, there shall be at least one stairway extending to the roof.

Basement Stairway:

Section 107. Every story below the street grade having a floor area of more than five thousand (5,000) square feet, shall have not less than two (2) stairways to the first story and each such stairway shall be not less than three (3) feet wide. Where such stories below grade have a floor area of less than five thousand (5,000) square feet, one such stairway having a minimum width of three (3) feet will be permitted. Whenever the basement or cellar of a building is used as a salesroom or for manufacturing purposes, it shall have a stairway at least three (3) feet in width leading therefrom direct to the street or outside of the

building. If the floor area of such basement or cellar exceeds five thousand (5,000) square feet, there shall be provided an additional stairway, from such basement or cellar, at least three (3) feet in width, for every additional five thousand (5,000) square feet of floor area.

Joint Stairways:

Section 108. Where two (2) floor areas of the same building adjoin and are separated by fireproof dividing walls, they may have a stairway in common, provided such stairway is not less than five (5) feet wide and is enclosed in all stories of the building by fireproof walls continuous from basement floor to above the roof in non-fireproof buildings and by fireproof walls or partitions in fireproof buildings; and where the stairways and landings are of fireproof construction and the doors, frames, sash and casings are of metal and the glazed portions of wire glass, then each such stairway may be considered as equivalent to one open stairway from each such floor area, and where any such stairway provides exit from only one story, such stairway may be considered as equivalent to two open stairways. All such stairway shafts shall have automatic self-closing fireproof doors at each floor, arranged to swing into the shaft, and at the ground floor similar doors, installed to swing outward, shall give egress to street or into driveway or alley leading to public street. All entrances to and exits from each such stairway shall be of a width at least equal to the width of the stairs. Otherwise than as above provided, where one or more stories of a building are divided by fireproof walls into separate floor areas, each such floor area shall be equipped with stairs as required by this section.

Fireproof Stairway and Elevator Shafts:

Section 109. In every building in which the stairways are required by ordinance to be enclosed in fireproof shafts, such stairways and all elevators in such buildings shall be enclosed within fireproof walls continuous from basement floor to above the roof in non-fireproof buildings and fireproof walls or partitions in fireproof buildings; all windows in every such stairway or elevator shaft shall have metal frames, casings and sash and be glazed with wire glass; all doors, frames, casings and thresholds in every such shaft shall be of metal. On every floor of any building in which the stairways are enclosed, there shall be installed, at or near every door leading to such stairways, an illu-

minated sign marked "Stairway", with letters at least eight (8) inches high, and the lights for such sign shall be lighted at all times when such building is occupied.

Fire Escape to Count as Stairway, When:

Section 110. In every building of Class 1, as provided for in this section, not more than three (3) stories in height and having more than one stairway, a stairway fire-escape, not less than three (3) feet wide and located as far as practicable from the stairway, may be considered as a stairway, and may be deducted from the total width of stairs required for the building.

An exterior stairway fire-escape having treads not less than ten (10) inches wide from nosing to riser and risers not more than eight (8) inches in height and having a stairway extending from grade to the top floor of the building, or having a counter-balanced section from the first story to the ground and a steel ladder from the top landing to the roof, and with a door opening from each floor onto a platform of such stairway, shall be considered, in a building having more than two (2) stairways, as the equivalent of one (1) interior stairway and one (1) stairway fire-escape, if the width of such stairway fire-escape with that of one (1) or more stairways in the building equals the width of stairs required by ordinance for such building.

Wherever a stairway fire-escape is considered by this section to be equivalent to an interior stairway or as taking the place of any of the width of stairs required by this ordinance, there shall be unobstructed access to a door opening out directly onto said fire-escape from each floor, provided, however, that the substitution of a fire-escape for an interior stairway, as above provided for, shall in no case be allowed where, in the opinion of the Inspector of Buildings, it would be less efficient as a means of egress than such interior stairway.

Width of Stairways:

Section 111. The width of stairs required for buildings shall be determined by the floor area measured on the second floor of the building and such area shall not include exterior or court walls, stairs, elevator shafts, well holes, chimneys or corridors.

The width of any stairway in any building may be *reduced by six* (6) inches at each successive three *stories or fraction* thereof above the first three

stories; provided, however, that no such stairway shall at any story be less than three (3) feet in width, and that no stairway shall be of a width at any story less than at any higher story nor less than the width prescribed by this ordinance.

The width of stairs required for a building shall be construed as the total width of all stairways required in the building. The width of any stairway shall be taken to mean the distance between wall and hand-rail for a single stair, and between hand-rails where two or more hand-rails are required by this ordinance.

Stairways which are three feet six inches (3'6") wide, or less, shall have at least one hand-rail, and stairways which are more than three feet six inches (3'6") wide shall have not less than two hand-rails. Stairways six feet six inches (6'6") wide or over shall have double intermediate hand-rails with end newel posts.

In warehouses, the risers shall not exceed eight inches (8") in height and the treads shall not be less than nine inches (9") in width, exclusive of nosing. In all other buildings the risers shall not exceed seven and one-half inches (7½") in height and the treads shall not be less than ten inches (10") in width, exclusive of nosing.

The location of every stairway required by this section shall be subject to the approval of the Inspector of Buildings.

CLASS I.

Section 112. In every building hereafter erected or altered that is to be used for manufacturing, sale of merchandise (other than department stores), hotel, lodging or rooming house, club house in which there are twenty (20) or more sleeping rooms, hospital, home for the aged or for children, in which there are ten (10) or more sleeping rooms.

Ordinary Construction:

With floor areas of five thousand (5,000) square feet or less, there shall be two (2) stairways.

With floor areas of five thousand (5,000) to nine thousand (9,000) square feet, there shall be three (3) stairways.

The width in inches of stairs required shall be computed as follows:

$$\frac{(\text{area}-3{,}000)\times 12}{1000}+72.$$

No stairway, however, may be less than three feet six inches (3′6″) in width.

Slow Burning Construction:

With floor area of six thousand (6,000) square feet or less, there shall be two (2) stairways.

With floor area of six thousand (6,000) to twelve thousand (12,000) square feet, there shall be three (3) stairways.

The width in inches of stairs required shall be computed as follows:

$$\frac{(\text{area}-3000)\times 8}{1000}+72.$$

No stairway, however, may be less than three feet three inches (3′3″) in width.

Fireproof Construction:

With floor area of seven thousand (7,000) square feet or less, there shall be two (2) stairways.

With floor area of seven thousand (7,000) to fifteen thousand (15,000) square feet, there shall be three (3) stairways.

With floor area of fifteen thousand (15,000) to twenty-one thousand (21,000) square feet, there shall be four (4) stairways.

With floor area of twenty-one thousand (21,000) square feet and over, there shall be five (5) stairways.

The width in inches of stairs required shall be computed as follows:

$$\frac{(\text{area}-3000)\times 6}{1000}+72.$$

No stairway, however, may be less than three feet (3′) in width.

Provided, however, that in any building hereafter erected or used for manufacturing purposes only, the stair capacity shall be computed as follows:

(See table next page.)

Fireproof buildings of this class, having an area of more than twenty-one thousand (21,000) square feet, may have but four (4) stairways, if such buildings are equipped with an approved automatic sprinkler system.

Where fireproof buildings are used solely for stor-

	Fireproof, sprinklered	Fireproof, not sprinklered	Mill, sprinklered	Mill, not sprinklered	
.....	30	50	40	60	in. per 100 persons on second floor
plus	15	25	20	30	in. per 100 persons on third floor
plus	12	20	16	24	in. per 100 persons on fourth floor
plus	9	15	12	18	in. per 100 persons on fifth floor
plus	6	10	8	12	in. per 100 persons on sixth floor
plus	3	5	4	6	in. per 100 persons on seventh floor
plus	0	0	0	0	in. per 100 persons on eighth floor or above, but in no case shall such total width be less than
.....	30	50	40	60	in. per 100 persons on any one floor.

age warehouse purposes or when such a building, not over two stories high, is erected for dry cleaning purposes only, and the number of persons employed on any floor of either type of building does not exceed the number specified below, they shall comply as to number of stairways as follows:

With floor area of eight thousand (8,000) square feet or less, where not more than ten (10) persons are employed on a floor, two (2) stairways.

With floor area of eight thousand (8,000) to fifteen thousand (15,000) square feet, where there are not more than fifteen (15) persons employed on a floor, three (3) stairways.

With floor area greater than fifteen thousand (15,000) square feet, where not more than twenty (20) persons are employed, four (4) stairways.

The width in inches of stairways required shall be computed as follows:

$$\frac{(\text{area}-3000)\times 4}{1000}+72.$$

No stairway, however, may be less than three (3) feet in width.

CLASS II.

Section 113. In every building hereafter erected or altered that is to be used exclusively for offices above ground story.

Slow Burning Construction:

With floor area of five thousand (5,000) square feet or less, one (1) stairway.

With floor area of five thousand (5,000) to eight thousand (8,000) square feet, two (2) stairways.

With floor area in excess of eight thousand (8,000) square feet, the width in inches of stairways shall be computed as follows:

$$\frac{(\text{area}-3000)\times 7}{1000}+72.$$

No stairway, however, may be less than three feet six inches (3′6″) in width.

Fireproof Construction:

With floor area of eight thousand five hundred (8,500) square feet or less, one (1) stairway.

With floor area of eight thousand five hundred *(8,500) to* twelve thousand (12,000) square feet, two *(2) stairways.*

With floor area in excess of twelve thousand 12,000) square feet, the width in inches of stairways equired shall be computed as follows:

$$\frac{(\text{area}-3000)\times 5}{1000}+72.$$

No stairway, however, may be less than three (3) feet in width.

CLASS III.

Section 114. In every building hereafter erected or altered to be used for department store purposes, there shall be provided the number and aggregate width of stairways specified in the following table:

(See table next page.)

The aggregate width and number of stairways required for buildings of intermediate floor areas not given in the above table shall be the width and number specified therein for the nearest given floor area.

No such stairway as above provided for shall be less than three (3) feet in width.

Provided, however, that if such department store, or any other building not herein otherwise provided for, is constructed of fireproof materials throughout, and metal frames and sash, glazed with wire glass, are used for all windows excepting those on the street fronts, and the stairs and elevators are constructed in fireproof shafts, and automatic self-closing fireproof doors are provided at each opening to such shafts, and an approved sprinkler system is installed in all stories of the building, the number of stairways, as above provided for, may be diminished one-half (½), provided that in no case shall there be less than two (2) stairways in any such building, and provided, further, that if such fireproof building contains to exceed ten thousand (10,000) square feet of floor area to each floor, each such stairway shall be at least five (5) feet in width from the first to the top story.

CLASS IV.

Section 115. In every building hereafter erected or altered that is to be used, or is to contain rooms that are used, for parish, lodge, banquet, dance, assembly (other than those in school and concert buildings) or exhibition purposes.

Floor Area, Each Floor, Square Feet.	1st to 4th Stories.	5th to 8th Stories.	9th to 12th Stories.	13th to 16th Stories.	No. of Stairways.
25,000	30 feet	27 feet	24 feet	21 feet	6
20,000	25 feet	22½ feet	20 feet	17½ feet	5
15,000	20 feet	18 feet	16 feet	15 feet	4
14,000	19 feet	17 feet	15 feet	13 feet	4
13,000	18 feet	16 feet	14 feet	12 feet	4
12,000	17 feet	15 feet	13 feet	12 feet	4
11,000	16 feet	14 feet	12 feet	12 feet	4
10,000	15 feet	13½ feet	12 feet	10½ feet	3
9,000	14 feet	12½ feet	11 feet	9½ feet	3
8,000	13 feet	11½ feet	10 feet	9 feet	3
7,000	12 feet	10½ feet	9 feet	9 feet	3
6,000	11 feet	9½ feet	9 feet	9 feet	3
5,000	10 feet	9 feet	8 feet	7 feet	2
4,000	9 feet	8 feet	7 feet	6 feet	2
3,000	8 feet	7 feet	6 feet	6 feet	2
2,000	7 feet	6 feet	6 feet	6 feet	2

The width in inches of stairways shall be com-
ed as follows:

$$\frac{\text{area)}}{600} \times 22,$$

t no stairway shall be less than five (5) feet in
ith, and in every building hereafter erected there
ll be not less than two (2) such stairways and
ated as far apart as practicable.

Every hall or room used for the above purposes in
y building hereafter erected, shall have access to
t less than two (2) stairways.

In every building of this class, there shall be
stalled on every floor, near each stairway, an illu-
nated sign marked, "Stairway", with letters at
ast eight (8) inches high, and the lights for such
gn shall be lighted at all times such building is
cupied.

Every stairway shall have hand-rails on each side;
airways seven (7) feet or over in width shall have
uble intermediate hand-rails; no stairway shall
cend a greater height than fifteen (15) risers with-
it a level landing, which landing shall be not less
an four (4) feet in width, measured in the direction
the run of the stairs.

CLASS V.

Section 116. In every building hereafter erected
altered that is to be used as an apartment house,
at building or tenement.

There shall be two (2) separate and distinct stair-
ays in every such building, extending from the first
oor to the top floor; each stairway shall be not less
an three (3) feet in width and no stairway shall
ntain winding treads, except as noted elsewhere in
is section. Provided, however, that the number and
idth of stairways shall be subject to the approval of
e Inspector of Buildings.

In every non-fireproof building hereafter erected or
tered to be used for Class V purposes, containing
assenger or freight elevators, each elevator and each
airway shall be enclosed within separate fireproof
afts; all doors, frames, sash, casings and thresholds
all be of metal, and all doors to stairway shaft shall
of an automatic self-closing type, arranged to
ving into stairway, except those at ground or first
oor, which shall swing outward to yard, alley or
reet.

CLASS VI.

Section 117. In every building hereafter erected
at is to be used as a school or convent building.

The width in inches of stairways in b
this class shall be computed as follows: A

$$\frac{(\text{area})}{660} \times 22 \text{ plus } 22 \text{ inches,}$$

for every hundred (100) of the total seating
of all class rooms. Provided, however, that
persons shall be allowed in any building at
time than can be properly accommodated
stairways.

There shall be at least two (2) stairways a
shall be less than four feet six inches (4'6") i
Each stairway shall have hand-rails on each
such run, and in stairways six feet six inches
or more in width, there shall be double interm
hand-rails with end newel posts. In no cas
the width of the landing, in the direction of the
the stairs, be less than the width of the stai

In elementary or grade schools, the riser
not be more than six (6) inches and the treads,
ing nosings, shall not be less than ten (10)
In high schools, the risers shall not be mor
seven (7) inches and the treads, including n
shall not be less than eleven (11) inches.

Every auditorium or assembly hall having
ing capacity of eight hundred (800) or more sl
provided with additional stairways, as may be re
by the Inspector of Buildings.

All stairs shall be kept free from stools,
or other obstructions at all times, and no perso
be permitted to stand on or occupy stairs duri
performance, service, exhibition, lecture, con
any other form of public assembly.

Whenever buildings of this class are used at
lighting of stairways shall be such as, in the
of the Inspector of Buildings, is adequate f
purpose, and the source of all such lighting sl
controlled by separate cut-off and shall be indep
of all other lights.

Exits:

Section 118. The outside vestibule doo
all buildings occupied either in whole or in pa
the purposes included in the classes of buildings
in Part XII of this ordinance, and includin
buildings used for restaurant or public dinin
purposes with accommodations for seating mor
fifty (50) persons, shall, except in buildings de
for storage and warehouse purposes, be arran
swing outward.

Such exit and vestibule doors shall at least equal, in their aggregate width, the combined width of all stairways leading thereto, together with the additional width necessary to accommodate all persons occupying the floor on which the exits are located, allowing twenty-two (22) inches of exit width for every one hundred (100) persons accommodated thereby.

CLASS VII.

Section 118a. In every building hereafter erected or altered, that is to be used for storage purposes, in

Buildings of Ordinary Construction:

With floor areas of five thousand (5,000) square feet or less, there shall be two (2) stairways.

With floor areas of five thousand (5,000) to nine thousand (9,000) square feet, there shall be three (3) stairways.

With floor areas in excess of nine thousand (9,000) square feet there shall be one (1) stairway for each additional five thousand (5,000) square feet of area.

In Buildings of Slow Burning Construction:

With floor areas of five thousand (5,000) square feet or less, there shall be one (1) stairway, and a stairway fire escape.

With floor areas of five thousand (5,000) to thirteen thousand (13,000) square feet, there shall be two (2) stairways.

With floor areas in excess of thirteen thousand (13,000) square feet, there shall be one (1) stairway for each additional eight thousand (8,000) feet of area.

In Buildings of Fire-Proof Construction:

With floor areas of eighty-five hundred (8,500) square feet or less, there shall be one (1) stairway.

With floor areas of eighty-five hundred (8,500) to fifteen thousand (15,000) square feet, there shall be two (2) stairways.

With floor areas in excess of fifteen thousand (15,000) square feet, there shall be one (1) additional stairway for each additional ten thousand (10,000) square feet, or fraction thereof.

No stairway in any building, hereafter erected or altered, for storage purposes, may be less than three feet, six inches (3 feet, 6 inches) in width.

In buildings of class VII, where an interior stairway is enclosed with walls of brick, concrete or other fire-proof materials, and provided with approved auto-

The width in inches of stairways in buildings of this class shall be computed as follows: Auditorium,

$$\frac{\text{(area)}}{660} \times 22 \text{ plus 22 inches,}$$

for every hundred (100) of the total seating capacity of all class rooms. Provided, however, that no more persons shall be allowed in any building at any one time than can be properly accommodated by such stairways.

There shall be at least two (2) stairways and none shall be less than four feet six inches (4'6") in width. Each stairway shall have hand-rails on each side of such run, and in stairways six feet six inches (6'6") or more in width, there shall be double intermediate hand-rails with end newel posts. In no case shall the width of the landing, in the direction of the run of the stairs, be less than the width of the stairs.

In elementary or grade schools, the risers shall not be more than six (6) inches and the treads, including nosings, shall not be less than ten (10) inches. In high schools, the risers shall not be more than seven (7) inches and the treads, including nosings, shall not be less than eleven (11) inches.

Every auditorium or assembly hall having a seating capacity of eight hundred (800) or more shall be provided with additional stairways, as may be required by the Inspector of Buildings.

All stairs shall be kept free from stools, chairs or other obstructions at all times, and no person shall be permitted to stand on or occupy stairs during any performance, service, exhibition, lecture, concert or any other form of public assembly.

Whenever buildings of this class are used at night, lighting of stairways shall be such as, in the opinion of the Inspector of Buildings, is adequate for the purpose, and the source of all such lighting shall be controlled by separate cut-off and shall be independent of all other lights.

Exits:

Section 118. The outside vestibule doors in all buildings occupied either in whole or in part for the purposes included in the classes of buildings named in Part XII of this ordinance, and including also buildings used for restaurant or public dining-room purposes with accommodations for seating more than fifty (50) persons, shall, except in buildings designed for storage and warehouse purposes, be arranged to *swing outward.*

Such exit and vestibule doors shall at least equal, in their aggregate width, the combined width of all stairways leading thereto, together with the additional width necessary to accommodate all persons occupying the floor on which the exits are located, allowing twenty-two (22) inches of exit width for every one hundred (100) persons accommodated thereby.

CLASS VII.

Section 118a. In every building hereafter erected or altered, that is to be used for storage purposes, in

Buildings of Ordinary Construction:

With floor areas of five thousand (5,000) square feet or less, there shall be two (2) stairways.

With floor areas of five thousand (5,000) to nine thousand (9,000) square feet, there shall be three (3) stairways.

With floor areas in excess of nine thousand (9,000) square feet there shall be one (1) stairway for each additional five thousand (5,000) square feet of area.

In Buildings of Slow Burning Construction:

With floor areas of five thousand (5,000) square feet or less, there shall be one (1) stairway, and a stairway fire escape.

With floor areas of five thousand (5,000) to thirteen thousand (13,000) square feet, there shall be two (2) stairways.

With floor areas in excess of thirteen thousand (13,000) square feet, there shall be one (1) stairway for each additional eight thousand (8,000) feet of area.

In Buildings of Fire-Proof Construction:

With floor areas of eighty-five hundred (8,500) square feet or less, there shall be one (1) stairway.

With floor areas of eighty-five hundred (8,500) to fifteen thousand (15,000) square feet, there shall be two (2) stairways.

With floor areas in excess of fifteen thousand (15,000) square feet, there shall be one (1) additional stairway for each additional ten thousand (10,000) square feet, or fraction thereof.

No stairway in any building, hereafter erected or altered, for storage purposes, may be less than three feet, six inches (3 feet, 6 inches) in width.

In buildings of class VII, where an interior stairway is enclosed with walls of brick, concrete or other fire-proof materials, and provided with approved auto-

matic self-closing fire-proof doors at all interior op-
ings in such walls, and provided with approved au-
matic sprinkling devices, installed in a manner
proved by the national board of fire underwrite
then such enclosed stairway shall be considered
equivalent of two (2) unenclosed stairways.

Where such enclosed stairway is constructed in lieu of two (2) unenclosed stairways, the building must be equipped with a stairway-fire-escape, built in accordance with the requirements of section No. 1 of this ordinance, or with an additional unenclos stairway.

A fire escape, provided that such fire escape constructed in accordance with the provisions of section No. 110 of this ordinance, shall be consider equivalent to one (1) stairway in any building which two (2) stairways would otherwise be require

PART XIII.

BUILDINGS WITHIN THE FIRE LIMITS AND THE FIREPROOF DISTRICT.

Exterior Walls, How Constructed:

Section 119. The walls of every building hereafter erected or enlarged within the "Fire Limits" or the "Fireproof District", except as hereinafter provided, shall be built of brick, stone, concrete, iron or other incombustible materials.

Height of Wooden Dwellings Within Fire Limits Increased, When:

Provided, however, that if any person or persons desire to increase the height of any wooden dwelling, or any part thereof, already erected and situated within the "Fire Limits" or the "Fireproof District", the height of such building, when completed, not to exceed two and one-half (2½) stories, the Inspector of Buildings may grant a permit therefor if, in his judgment, the fire hazard will not be increased thereby.

Sheds, Iron Clad, Within Fire Limits and Fireproof District:

Provided, further, that sheds, the ground area of which will not exceed four hundred (400) square feet and the height of which will not exceed twelve (12) feet, may be erected within the "Fire Limits" or the "Fireproof District", under the following provisions: The walls of all such sheds shall be covered with iron, fastened directly upon the wood studding without

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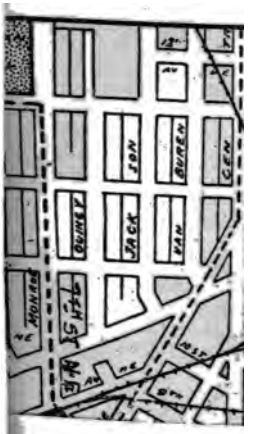

sheathing boards, and the roofs shall be covered with fireproof materials. Provided, however, that no such shed shall at any time be used as a store, shop, office, factory or dwelling.

FIREPROOF DISTRICT.

It shall hereafter be unlawful to construct, and there shall not be constructed, within the following described "Fireproof District", any non-fireproof building more than one story in height, except as hereinafter provided: Said district shall be that contained within the following boundaries: Commencing at a point on the west bank of the Mississippi river, where said river bank is intersected by the center line of 3rd avenue north produced; thence southwesterly along the center line of 3rd avenue north to the right-of-way of the Great Northern Railway Company; thence southwesterly along said right-of-way to a point where the center line of 6th street north intersects said right-of-way, thence southeasterly along the center line of 6th street north to the center line of 3rd avenue north; thence southwesterly along the center line of 3rd avenue north to the center line of 7th street north; thence southeasterly along the center line of 7th street north to the center line of 1st avenue north; thence southwesterly along the center line of 1st avenue north to the center line of 8th street north; thence southeasterly along the center line of 8th street north to the center line of Mary place; thence southwesterly along the center line of Mary place to the center line of 10th street; thence southeasterly along the center line of 10th street south to the center line of Marquette avenue; thence northeasterly along the center line of Marquette avenue to the center line of 8th street south; thence southeasterly along the center line of 8th street south to the center line of 4th avenue south; thence northeasterly along the center line of 4th avenue south to the center line of 5th street south; thence southeasterly along the center line of 5th street south to the center line of 5th avenue south; thence northeasterly along the center line of 5th avenue south to the center line of Washington avenue south; thence northwesterly along the center line of Washington avenue south to the center line of 3rd avenue south; thence northeasterly along the center line of 3rd avenue south and 3rd avenue south produced, to the west bank of the Mississippi river; thence along the said west bank of the Mississippi river to the point of beginning. Provided, however, that this provision shall not prohibit the construction, within said "Fireproof District", of addi-

tional stories on top of non-fireproof buildings now erected and so designed that such additional stories can safely be built thereon; but in no case shall the ground area of any such non-fireproof building be increased, except by the erection of fireproof structures.

FRAME BUILDINGS WITHIN THE FIRE LIMITS REPAIRED OR ALTERED, WHEN.

Section 120. It shall be unlawful to repair or alter any frame building within the "Fire Limits" or the "Fireproof District" of the City of Minneapolis, if in the opinion of the Inspector of Buildings such building has been damaged from any cause to the extent of forty per cent (40%) of the cost of a similar new building, and any such building shall be torn down and removed, if in a dangerous condition, or when so ordered by the Inspector of Buildings.

Provided, however, that any such frame building not damaged from any cause, in the judgment of the Inspector of Buildings, to the extent of forty per cent (40%) of the cost of a similar new building, may be repaired or altered, provided, however, that no such frame building shall be altered for use in any manner by this ordinance prohibited for new buildings of similar construction.

Provided, further, that such frame buildings situated outside the "Fire Limits" and the "Fireproof District", and damaged from any cause to the extent of forty per cent (40%) of the cost of a similar new building, shall be torn down and removed when in a dangerous condition, or when so ordered by the Inspector of Buildings.

ROOFS.

Section 121. The weather covering of all roofs, cornices, gutters, eaves and parapets, within the "Fire Limits" or the "Fireproof District", shall be made of incombustible materials.

No uncovered tar, tar paper, resin, felt or woodwork shall in any way be exposed on any roof or its appendages.

No composition roof covering shall be used within the "Fire Limits" or the "Fireproof District", without a covering of gravel, unless the same is accepted by the Underwriters' Laboratories of the National Board of Fire Underwriters as being on a par with tar-and-gravel roof covering.

EXPOSED COMBUSTIBLES ON ROOFS.

Section 122. It shall be unlawful for any person to construct, alter or repair the roof of any building, or

any sky-light, scuttle, pent-house enclosure or appendage thereon, situated within the "Fire Limits" or the "Fireproof District", of the City of Minneapolis, and leave uncovered or in any way exposed, any tar, tar paper, resin, felt or woodwork thereon, except where the Inspector of Buildings is herein specifically allowed to grant permits for repairs on wooden buildings.

It shall be unlawful for any owner, occupant or person in charge or control of any building situated within the "Fire Limits" or the "Fireproof District", to maintain or allow to be maintained, upon the roof of any such building, any rubbish, combustible material, or any material whatsoever that is not a part or parcel of such roof or building.

PHOTOGRAPHERS' ROOMS.

Section 123. It shall be permissible to construct an addition of wooden frame-work construction, for the purpose of a photographers' printing room, elevator shaft extension or stairway enclosure, above the main roof of any building, provided that it is, in the judgment of the Inspector of Buildings, impracticable to make such construction fire-proof. Such framework construction shall be properly supported, and shall not exceed ten (10) feet in height above the main roof, and the sides and roof thereof shall be covered with fireproof material. The total area covered by any such addition shall not exceed twelve and one-half per cent (12½%) of the total area of the roof of the building upon which such addition is erected.

APPENDAGES ABOVE THE FIRST STORY.

Section 124. Appendages to any business building above the first story, and above thirty (30) feet from grade of sidewalk on any other building, if not wholly of incombustible material, shall be enveloped with metal.

Dormer windows, cornices, mouldings, balconies, bay-windows, towers, spires, ventilators, etc., shall be considered as appendages.

TEMPORARY SHEDS.

Section 125. Temporary one (1) story frame sheds may be erected within the "Fire Limits" or the "Fireproof District", for the use of builders, adjacent to buildings in course of erection, but such temporary sheds shall be *demolished* upon the completion of said *buildings.*

STAIRS OF WOOD WITHIN FIRE LIMITS, WHEN.

Section 126. Outside stairs constructed of wood and in a substantial manner, if approved by the Inspector of Buildings, may be erected on the rear of buildings within the "Fire Limits", but not within the "Fireproof District".

METAL FRAMES AND SASH, AND WIRE-GLASS.

Section 127. In every building hereafter erected within the "Fire Limits", over two (2) stories in height, or that is so designed as to allow for additional stories above two (2) stories, the window frames and sash shall be constructed of metal and the sash shall be glazed with wire-glass. Provided, however, that the above provision shall not apply to dwelling houses, apartment and flat buildings, nor to the windows fronting on the street in any building, nor to the windows through the walls of any enclosed court that is entirely surrounded by fireproof walls, nor to the windows of a court enclosed on three sides by fireproof walls, if such windows are more than thirty (30) feet distant from the open side of such enclosed court.

The term, "street", as above used, shall not in this connection include alleys.

Wherever additional stories are constructed on any building now erected, and the total height of such building, including the addition, exceeds two (2) stories, the window frames and sash shall be of metal and the sash glazed with wire-glass, including both those in the original and in the new portion of the building, as required for new buildings.

PART XIV.

FIRE ESCAPES AND FIRE EQUIPMENT.

Halls and Exits to Fire Escapes to Be Provided:

Section 128. Hereafter, it shall be the duty of architects and owners of buildings erected within the City of Minneapolis to provide suitable halls or exits to fire-escapes for all buildings where fire-escapes are required.

In all hotels and public lodging houses now or hereafter constructed, there shall be provided and maintained, on each and every floor containing more than ten (10) sleeping rooms and located above the second floor, open passageways or halls connecting with the main halls where the main halls do not extend to the fire-escapes, and extending to at least two (2) fire-escapes, except in cases where, in the opinion of the Inspector of Buildings and the Chief Engineer of the

Fire Department, such passageways or halls leading to one (1) fire escape only shall be deemed sufficient. Such passageways or halls shall be at least thirty (30) inches in width, and shall at all times be kept free of obstructions of every kind. Provided, however, that said halls shall not be required where fire-escapes are provided which furnish direct egress from each sleeping room to said fire-escapes.

METALLIC FIRE ESCAPES.

Section 129. Each and every building within the City of Minneapolis, three (3) stories or more in height, except as hereinafter provided, shall be provided with a metallic fire-escape or fire-escapes extending from the second floor to and above the roof of such building, and on the outer walls thereof, in such locations and numbers as the Inspector of Buildings and the Chief Engineer of the Fire Department shall deem necessary.

Classification of Buildings:

For the purposes of this section of this ordinance, buildings shall be classified as follows:

1. Hotels and other structures two stories high, with ten or more sleeping rooms, where sleeping accommodations are furnished to the public.
2. Such hotels and structures more than two stories high.
3. Tenements, flat buildings and boarding houses, more than two stories high, accommodating more than twenty persons, whether in one family or more; an attic or mansard-roof floor, when used for sleeping, to be counted as a story.
4. Buildings used as theaters or public halls, and having a seating capacity of over three hundred.
5. Public school buildings, and seminary, academy and college buildings, more than two stories high.
6. Hospitals and asylums two or more stories high.
7. Prisons, reformatories, workhouses, jails, and other places of penal confinement.

Requirements for Class One:

For each twenty-five hundred (2,500) square feet of area, or fractional part thereof, covered by a building in class one, there shall be provided an efficient chemical fire extinguisher, conveniently located in a public hallway outside of the sleeping rooms and always in condition for use, or a one and one-fourth (1¼) inch inside standpipe, with hose connection and hose of sufficient length always attached, in such hallway,

which standpipe shall be supplied by a sufficient pressure of water.

Requirements for Class Two:

Each six thousand (6,000) square feet of area, or fractional part thereof, covered by a building in class two, shall be provided with a one and three-fourths (1 3/4) inch inside standpipe, and sufficient one and one-fourth (1¼) inch hose connected therewith on each floor, and constantly furnished with sufficient water pressure from water works or pump which can be put into instant action; or for each such area there shall be a two and one-half (2½) inch metallic strandpipe, with metallic ladder attached above the first story, located upon the outside of the wall, extending above the roof, and so situated as to be accessible from the roof, and from each story above the first, with valves and male hose connections at every story and on the roof, and female hose connection at base of the pipe, of such size and pattern as to allow connection with the equipment of the local fire department. There shall also be provided for each eighty-five hundred (8,500) square feet of such area, or fractional part thereof, at least one efficient chemical fire extinguisher on each floor containing sleeping apartments. If, for lack of water works or steam to operate pumps, the inside standpipe be not practicable, then, in addition to the fire extinguishers, there shall be placed in the hallway on each floor containing sleeping apartments one barrel of water and two pails, labeled, "For fire purposes only", for each twenty-five hundred (2,500) square feet of area, or fraction thereof, on such floor. A red light shall be kept burning all night at the head of each stairway above the first floor, and at or near each approach to a stationary fire-escape. In each sleeping room above the first floor, the following printed notice shall be conspicuously posted: "Exit in case of fire. Upon leaving this room, turn to the (here insert 'right' or 'left') and by passing (here insert distance in feet) you will reach a red light which indicates (here insert 'fire-escape' or 'stairway')".

Requirements for Class Three:

For each five thousand (5,000) square feet of area, or fraction thereof, covered by a building in class three, there shall be provided one outside standpipe, such as required for class two, and one non-combustible ladder or stairway for each twenty persons, or fraction thereof, that such building accommodates above the first story.

Requirements for Class Four:

Each building in class four shall be provided with a standpipe running to the stage, and with hose always connected, and of length to reach all parts of the stage; also with an efficient chemical fire extinguisher properly located to protect scenery. If, for lack of constant water pressure, the standpipe should be impracticable, the stage shall be provided with two such extinguishers, and at least one barrel of water, with two pails, labeled "For fire purposes only". The foregoing provisions of this section shall not apply to halls where neither curtains nor scenery are used, but all buildings in class four shall have exits, non-combustible stairways, ladders, fire-escapes, and other means of fire protection in such number and of such character and size as may be determined from time to time by the Inspector of Buildings and the Chief Engineer of the Fire Department.

Requirements for Classes Five and Six:

Buildings in classes five and six shall be provided, when practicable, with an inside or outside standpipe, as required for those in class two. A chemical fire extinguisher shall be provided on each floor above the first, and there shall be exits, non-combustible stairways and ladders and fire-escapes, in such number and of such character and size as may be determined from time to time by the Inspector of Buildings and the Chief Engineer of the Fire Department.

Requirements for Class Seven:

Each building in class seven that is not built of stone, brick or iron, with non-combustible partitions, and roof practically fireproof, shall have a standpipe and sufficient hose, connected on each floor with constant water pressure, or an efficient chemical fire extinguisher on each floor.

Exits from Hotels, etc.; Rope Fire Escapes:

Section 130. In cities of the first, second and third classes, every building maintained or held out to be a hotel, or place where sleeping accommodations are furnished to the public, shall be provided with more than one exit from each story directly to the ground; and such exits must always be kept in good repair, free from any obstruction, and ready for immediate use. If any such building be not provided with suitable metal fire-escapes on two sides or two ends, or a side and an end, then every outside sleeping apartment

shall be equipped with a five-eighths (5-8) inch manilla rope, plainly visible and securely attached therein, of length and strength sufficient to reach the ground, and to sustain five hundred (500) pounds weight and having knots not more than fifteen (15) inches apart throughout its length.

Such fire-escapes may be of stairway or ladder type, at the discretion of the Inspector of Buildings. Provided, however, that ladder fire-escapes shall not hereafter be constructed on any building in which women occupy apartments or rooms, or are employed, above the second floor.

Each fireproof stairway enclosed within fireproof walls and provided with automatic fireproof doors at each floor, and with proper halls or passageways leading to the same, shall be considered and accepted as a fire-escape.

The Inspector of Buildings is hereby authorized to notify and require any owner, lessee, occupant or agent, in possession, charge or control of any such building as aforesaid, by serving upon him or them, or each of them, or by leaving for him or them, or each of them, at his or their residence or place of business, a notice in writing to erect, or to cause to be erected, on such building, within sixty (60) days after the service of such notice, metallic fire-escapes in such locations and numbers as he and the Chief Engineer of the Fire Department may deem necessary for the protection and safety of the occupants of such building.

The owner of any such building as above specified who shall fail to provide fire-escapes on said building in such locations and numbers as to afford ample protection to the occupants of said building, in the opinion of the Inspector of Buildings and the Chief Engineer of the Fire Department, in case of fire, or as provided by this ordinance, and any owner, lessee, occupant, or agent in possession, charge or control of any such building as above specified, so served with notice as hereinbefore provided, who shall fail to cause such fire-escapes to be erected on said building within sixty (60) days from the date of service of such notice, shall, upon conviction thereof, be subject to a fine of not less than Ten Dollars ($10.00) or more than One Hundred Dollars ($100.00), or, upon failure to pay such fine, to imprisonment not to exceed ninety (90) days.

All stringers for stairs for fire-escapes, where cast iron brackets and treads are used, shall be two by six (2x6) inch channel iron. Brackets for treads shall be *fastened* to stringers with two (2) three-eighths (3-8) *inch bolts* for each bracket. Treads shall not be less

than seven (7) inches wide and shall be bolted to brackets with one (1) three-eighths (3-8) inch bolt countersunk in tread. Where wrought iron treads are used, grate-style, stringers shall be at least equal to three-eighths by five (3-8x5) inch bar iron; treads to be not less than seven (7) inches wide, bolted to the stringers, with two (2) three-eighths (3-8) inch bolts to the stringer. Wrought iron treads shall be made of one by one-fourth (1x¼) inch bar-iron, edge up; washers to be of cast or wrought iron and not longer than one and one-fourth (1¼) inches.

All balconies shall have at least two (2) brackets and all stringers at least one (1) bracket.

Iron stairways shall not be less than two (2) feet in width, and railings shall not be less than three (3) feet in height.

Grates for balconies shall be made of bar-iron not less than one by one-fourth (1x¼) inch, put together with edges up; washers to be not more than one and one-fourth (1¼) inches long. Frames for balconies shall be made of angle-iron, one and one-half by one and three-fourths (1½x1¾) inch, one-fourth (¼) inch thick. Brackets for balconies shall be not less than one (1) inch in diameter, and heavier where required. Brackets shall run through the wall, with nut and washer on the inside. Railings for stairway fire-escapes shall be of wrought iron pipe, two (2) pipes high; the top pipe to be not less than one (1) inch and the lower pipe not less than three-fourths (¾) of an inch in diameter. Standards for railings shall not be less than one (1) inch wrought iron pipe, bolted to the stringer or platform with two (2) three-eighths (3-8) inch bolts; standards to be placed not to exceed four (4) feet on centers.

Stairway fire-escapes may be of circular or other forms, but no stairway fire-escape shall be less than two (2) feet in width, and all such stairway fire-escapes shall be of equal strength with the stairway above specified.

Ladder fire-escapes shall not be less than twenty (20) inches in width, and shall be made of one-half by two (½x2) inch bar-iron for stringers, or of one and one-fourth (1¼) inch wrought iron pipe; rounds to be of one-half (½) inch steel bars, not over twelve (12) inches on centers, and to be riveted to the stringers. Brackets and balconies shall be the same as above specified for stairway fire-escapes.

Wherever required by the Inspector of Buildings, drop-ladders or hinged stairways, conducting from the lower balconies of fire-escapes, shall be provided.

Provided, further, that the Inspector of Buildings may require fire-escapes to be of greater width and strength than herein required, whenever the occupancy of any building is such that he deems it necessary.

Wherever fire-escapes are placed on the outside walls of buildings, the windows adjoining such fire-escapes shall be provided with metal frames and sash glazed with wire-glass, as required by the Inspector of Buildings.

It shall be unlawful to obstruct the exit to any fire-escape, or to allow any obstruction on any fire-escape or platform thereof.

STANDPIPES.

Section 131. All buildings four (4) stories or more in height, where fire-escapes are required, shall have a three-inch (3-inch), or larger, metallic standpipe on the outside wall thereof, extending to and above the roof and so arranged that fire-hose can be attached from the street to the same. Provided, however, that where fire-escapes are not required on fire-proof office buildings each such building shall be provided with an inside stand-pipe with a sufficient length of hose attached thereto, on each and every floor, to throw a stream of water to every part of such floor of the building. And said stand-pipe shall have a connection outside of the building provided with one (1) Siamese valve, arranged subject to the approval of the Chief Engineer of the Fire Department. Provided also that the city water pressure shall be constantly maintained on all such inside stand-pipes.

Inside Stand-Pipes; Size Of:

In buildings less than forty (40) feet in height, stand-pipes shall be of wrought iron pipe not less than two inches (2 inches) in diameter; in buildings over forty (40) feet in height and under sixty (60) feet not less than two and one-half inches (2½ inches) in diameter; in buildings over sixty (60) feet and under seventy-five (75) feet, not less than three inches (3 inches) in diameter; in buildings over seventy-five (75) feet and under one hundred (100) feet, not less than four inches (4 inches) in diameter. Standpipes shall be connected to city water main through cast iron pipe of not less than two inches (2 inches) in diameter. Provided, however, that buildings over seventy-five (75) feet and under one hundred (100) feet in height the size of pipe from city water main to stand-pipe shall be not less than four inches (4 inches) in diameter.

Stand-pipes shall have one (1) Siamese automatic valve within five (5) feet from the level of street grade and one (1) hose valve at each floor above the first, and on the roof.

All hose couplings shall conform to the size and pattern adopted by the Fire Department of the City of Minneapolis (2½ inches), provided, however, that inside stand-pipes in buildings over forty (40) feet in height shall have a 2½-inch valve on each and every floor from basement to roof, provided also that said 2½-inch valve shall be reduced to 1½-inch on all floors except the roof.

In buildings where the city water pressure is less than fifteen (15) pounds per square inch at the highest outlet an auxiliary water supply shall be provided, either a gravity tank on roof or an approved automatic fire pump. Said auxiliary water supply shall have a capacity sufficient to supply a pressure on stand-pipes of not less than fifteen (15) pounds per square inch at highest outlet.

All stand-pipes supplied from a gravity tank on roof shall be equipped with a check valve near tank. At top of each inside stand-pipe for testing purposes there shall be attached a 1-8-inch pet cock.

The Chief Engineer of the Fire Department is hereby given authority to test each and every stand-pipe and all hose attached thereto, now or hereafter erected or installed in the City of Minneapolis, at least once in six (6) months and shall keep a record of the condition of the same in his office.

The requirements governing the installation of inside standpipes may be waived in buildings equipped with approved automatic sprinkler system if, in the judgment of the Chief Engineer of the Fire Department and Inspector of Buildings, such stand-pipes are unnecessary.

Before a building permit is issued for any such building, plans for the same shall be submitted to the Fire Marshal of the City of Minneapolis, which plans shall show the location of all stand-pipes, together with the size of feed from city water main and size of riser. And the building permit for such building shall not be issued until the said plans have been approved by the said Fire Marshal.

FIRE EXTINGUISHERS, PORTABLE FIRE-ESCAPES AND RED LIGHTS.

Section 132. The owner, lessee, occupant or agent *in possession, charge* or control of any hotel, lodging

house, factory building, office building, department store building, or of any building in which more than ten (10) persons are engaged in work above the first floor or occupy rooms above said first floor, shall provide and place on each and every floor thereof at least one (1) chemical fire extinguisher of at least three gallons capacity, for every twenty-five hundred (2,500) square feet of floor area, or fraction thereof, in any such floor. The Chief Engineer of the Fire Department may order the said fire extinguishers to be recharged as often as may be necessary, and at least once every year. Such fire extinguishers shall conform to the following specifications:

Capacity:

Not less than three (3) gallons nor more than three (3) gallons four (4) ounces to the lower edge of the collar, and not less than two and one-half (2½) gallons nor more than two and one-half (2½) gallons four (4) ounces to the filling indicator.

Shell:

(a) Cylinder not less than No. 18 B. & S. gauge, hard copper, dome and bottom to show at least No. 17 B. & S. gauge in all parts after spinning. (b) Shell to be safe against distortion or strain with three hundred and fifty (350) pounds of hydrostatic pressure held for one minute. Each shell to be so tested and so marked before shipment. Shells which show distortion or strain at ten per cent (10%) or burst at twenty per cent (20%) above three hundred and fifty (350) pounds, shall not be considered safe. (e) Openings for cast fittings to fit close, and inside of shell to fit close, to flanges of fittings. (d) Shell to have stiffening ring at lower edge. (e) Filling indicator to be of metal. (f) If used, riveted and beaded seams to be thoroughly sweated, and rivet holes to be accurately punched to meet and avoid buckling of sheet. Both laps of beaded seams to fit each other and be proportioned to be sprung together before soldering.

Collar:

(a) Inside diameter not less than two and one-half (2½) inches in the clear. (b) To have sufficient height to prevent cap reaching dome with gasket removed.

Cap:

(a) Must screw to collar, threads to be protected *against* exposure to contents of extinguisher. (b)

gasket not less than one-sixth (1-6) inch thick nor less than five-sixteenths (5-16) inch wide to be used at the joint, and to fit recess snugly. (c) To have four or five threads holding. (d) To be of hard red brass and have ample metal back of gasket recess. (e) To have ring form of handle, about six (6) inches in diameter. Castings to allow one (1) inch clearance between upper surface of cap and lower surface of ring, and to have the finished cap, when coated but with cage attached, weigh about two pounds.

Outlet:

(a) Outlet casting to have not less than one-fourth (¼) inch internal diameter at any point and not less than three-thirty-seconds (3-32) inch wall. (b) Hose connection to outlet casting to be so designed that hose can be detached and replaced without liability of injury to hose or obstruction of stream. (c) To be located midway between center of top handle and center of labels. Distance between ring casting and outer surface of outlet casting to be not more than one inch. (d) Outlet to be screened with brass netting or perforated plate, heavily coated.

Coating:

(a) Shell, collar, cap, outlet and hose coupling, except threaded surfaces, to be heavily, evenly and completely coated on inside at the factory where same is made, with alloy of tin and lead. (b) Joints and rivets, if any, to be covered to form a smooth interior surface.

Handles:

(a) Ring form of handle to be used on cap. (b) Bottom handle to allow not less than one and one-eighth (1 1-8) inches free clearance for hand, and side handle not less than three and one-half (3½) inches free clearance in width. (c) Bottom handle to be parallel with top handle, not to rely entirely upon solder as a fastening, and to be rigid, not hinged. (d) Top handle to be diametrically opposite direction plates, securely riveted and soldered to shell, not extending through it. It should, preferably be cast, formed to fit the contour of the shell where it is riveted, and strong enough to allow a lever to be used between it and the ring on the cap, in case the cap is tightly stuck.

Cage:

(a) To support bottle at bottom and be arranged to allow ready removal and replacement of bottle with-

out danger of dropping bottle or spilling acid. (b) Not to rely on solder entirely for fastening parts. All joints and connections to be mechanically secure without solder and then soldered for protection against corrosion, and the whole cage heavily coated with alloy of lead and tin. (c) To have no sharp corners or projections which can mar the collar casting as the cage passes through. (d) To fit bottle loosely and hold bottle in place when inverted. (e) Cages depending on movable parts in discharging extinguishers, and cages supporting bottle by neck, not approved.

Bottle:

(a) Acid line to be blown in or etched on glass and accurately placed. Ground lines deeply cut increase liability of breakage and are forbidden.

Hose:

(a) To be of approved make of three-ply rubber, capable of withstanding a hydrostatic pressure of four hundred (400) pounds to the square inch held for five minutes. (b) To be so attached to outlet that coupling will withstand a hydrostatic pressure of three hundred and fifty (350) pounds to the square inch for one minute. (c) To be attached to hang vertically, and so that it can be readily removed and replaced when necessary. (d) To be of such length that with hose hanging vertically, tip of nozzle will just clear any plane surface on which extinguisher is placed.

Nozzle:

(a) To be of material which will not be affected by corrosion. (b) To be cast free from blow holes, checks or other imperfections, interior to be finished smooth and tapered toward orifice. Discharge opening to be not less than one-eighth (1-8 inch, nor more than three-sixteenths (3-16) inch diameter, perferably drilled straight for about three-sixteenths (3-16) inch back from orifice and chamfered.

Chemical Charge:

Sulphuric acid and bicarbonate of soda to be in such proportions that a pressure cannot be obtained in excess of three hundred and twenty-five (325) pounds with soda solution at one hundred and twenty-five degrees (125°) Fahrenheit. Stream shall not show acid reaction; one and one-quarter (1¼) to one and one-half (1½) pounds bicarbonate of soda to three and one-half (3½) to four (4) ounces sulphuric acid, acid recommended.

Marking:

(a) Directions for operating to be plainly and permanently fixed on side of shell diametrically opposite the top handle and so as to not be back of hose. Letters to be of not less than one-half (½) inch in height and of a different color than background. (b) Directions for recharging to be plainly and permanently fixed on side of shell directly under the directions for operating. These must state that the extinguisher, if not used for a fire, must be discharged and recharged at least once a year and record of same kept on card attached to machine. They must also state that, whenever the extinguisher is discharged, it must be entirely emptied and thoroughly cleaned before refilling, and that the extinguisher must be protected from frost. Cards to be of linen, sized and attached to upper handle by brass wire or ring, or set in metal frame soldered to shell. (c) Name and address of manufacturer and trade name of machine must be permanently marked on each extinguisher.

In General:

Extinguisher to be constructed and finished in a thoroughly workmanlike manner, to have as few parts as possible, to be free from moving parts subject to corrosion, and not to be equipped with shut-off valves. Extinguishers applying the acid slowly are preferable Under the majority of fire conditions, best results will be obtained with feed proportioned to reach maximum pressure in about twenty-five to thirty-five (25 to 35) seconds and not to exhaust liquid in stream under fifty to sixty-five (50 to 65) seconds, solution being at ordinary temperature.

Extinguishers of One Quart Capacity, When:

Provided, however, that in lieu of all other chemical fire-extinguishers required by this ordinance to be provided and placed in the public school buildings in the City of Minneapoils, there shall be provided and placed at least two (2) chemical fire extinguishers of one quart or more capacity, approved by the Underwriters' Laboratories Incorporated, on each floor of every public school building in the City of Minneapolis, and at least one such chemical fire extinguisher in every manual training room in the public school buildings in the City of Minneapolis, and such chemical fire extinguishers hereby required shall be located in such places as shall be approved by the Fire Department of the city.

Rope Fire-Escapes and Lowering Devices:

In each and every building or structure within the City of Minneapolis used, maintained, or advertised as, or held out to the public to be, an inn, hotel, lodging house or place where sleeping accommodations are furnished to the public, with or without meals, there shall be supplied and kept at all times in plain sight, in every bed-room or sleeping room on any floor above the ground floor, and securely attached therein and thereto, at a point at least three (3) feet above the window sill, a manila rope at least five-eighths (5-8) of an inch in diameter, with knots not more than fifteen (15) inches apart, and of sufficient length to reach to the ground. Said rope shall be of sufficient strength to sustain a weight and strain of at least twenty-five hundred (2,500) pounds, and all attachments connected therewith shall be of sufficient strength to sustain a weight and strain of at least one thousand (1,000) pounds.

Provided, however, that if there is provided a mechanical lowering device of a pattern approved by the Chief Engineer of the Fire Department, said knots shall not be required in said manila rope.

Any person or persons keeping, maintaining, controlling or managing any building or structure kept, used or maintained as, or advertised as, or held out to the public to be, an inn, hotel, lodging house or place where sleeping accommodations are furnished to the public, with or without meals, shall supply and keep at all times in plain sight, in every bedroom or sleeping-room on any floor above the ground floor, and securely attached therein and thereto, at a point at least three (3) feet above the window sill, a manila rope at least five-eighths (5-8) of an inch in diameter, with knots not more than fifteen (15) inches apart, and of sufficient length to reach to the ground. Said rope shall be of sufficient strength to sustain a weight and strain of at least twenty-five hundred (2,500) pounds, and all attachments connected therewith shall be of sufficient strength to sustain a weight and strain of at least one thousand (1,000) pounds.

Provided, however, that if there is provided a mechanical lowering device of a pattern approved by the Chief Engineer of the Fire Department, said knots shall not be required in said manila rope. Provided, further, that said manila rope shall not be required in sleeping rooms exempted by the state law, if said inns, hotels, or lodging houses are provided with fire-escapes as required by this ordinance.

Fire-Escape Signs and Red Lights:

In all inns, hotels and public lodging houses, there shall be placed, on each floor above the first floor, signs showing the location of the fire-escapes. The letters of such signs shall be at least four (4) inches in height. There shall also be kept burning, at all times between the hours of sunset and sunrise, on each floor above the first floor, a red light near each and every exit to a fire-escape.

Penalties:

The owner of any building such as above specified who shall fail to provide any such fire-extinguisher, manila ropes, signs or red lights as above required, and the owner, lessee, occupant or agent in possession, charge or control of any such building, who shall fail to provide any such fire-extinguishers as above specified, and any person or persons keeping, maintaining, controlling or managing any building or structure kept, used or maintained as, or advertised as, or held out to the public to be, an inn, hotel, lodging house or place where sleeping accommodations are furnished to the public, whether with or without meals, who shall fail to provide any such manila ropes, signs or red lights as above specified, shall, upon conviction thereof, be subject to a fine of not less than Twenty-Five Dollars ($25.00) nor more than One Hundred Dollars ($100.00), or, upon failure to pay such fine, to imprisonment not to exceed ninety (90) days.

Authority to Enforce:

The Chief Engineer of the Fire Department of the City of Minneapolis shall, and is hereby authorized to, issue the necessary orders for the enforcement of the provisions of this section.

PART XV.

CHIMNEYS AND POWER AND HEATING PLANT PROVISIONS.

Chimneys For Steam Boilers:

Section 133. It shall be unlawful to construct in any building any chimney for a steam boiler plant until after the necessary commercial horsepower of the boiler capacity shall have been ascertained, and the size of the flue of the chimney installed therefor shall not be less than that determined by the follow-

ing table and formulae; provided, however, that where a mechanical stoking device is installed, the required size of the chimney flue shall be determined by the Inspector of Buildings:

(See table next page.)

The dimensions of chimney flues, as herein given, are arrived at by means of the following formulae:
Let

HP=Horsepower,
H=Height of chimney, in feet, above the grate,
E=Effective area in flue, in inches,
A=Actual area of flue, in feet,
S=Side of square flue, in inches,
d=Diameter of round flue, in inches.

Then

$$E=\frac{0.3HP}{\sqrt{H}}=A-0.6\sqrt{A} \qquad (1)$$

$$HP=3.33E\sqrt{H} \qquad (2)$$

$$S=12\sqrt{E+4.} \qquad (3)$$

$$d=14.54\sqrt{E+4.} \qquad (4)$$

$$H=\frac{(0.3HP)^2}{(E)} \qquad (5)$$

The walls of such chimneys shall not be less than eight (8) inches in thickness for the first fifty (50) feet from the top downward, and shall be increased four (4) inches in thickness for each additional twenty-five (25) feet or fraction thereof below said upper fifty (50) feet. All chimneys shall be supported upon proper foundations.

Any such chimney constructed with a solid wall, the flue area of which is more than three hundred and twenty-four (324) but does not exceed seven hundred and seven (707) square inches, shall be lined with fire-brick, laid up in fire-clay mortar, for a distance of two (2) feet below the smoke-pipe, where it enters the chimney, and for twenty (20) feet above such smoke-pipe, and where the flue area exceeds seven hundred and seven (707) square inches, such fire-brick lining shall be carried up at least one-third (1-3) of the distance from where such smoke-pipe enters such chimney to the top thereof.

Each such chimney shall extend at least twelve (12) feet above the roof of the building in which it occurs, where the flue area of the chimney exceeds one hundred seventy (170) square inches.

SIZE OF CHIMNEY FLUES FOR STEAM BOILERS.

Diameter In Inches.	Actual Area Square Feet.	Effective Area Square Feet.	Height of Chimney in Feet.														Side of Square In Inches.
			50	60	70	80	90	100	110	125	150	175	200	225	250	300	
			Commercial Horse Power of Boiler.														
18	1.77	.97	23	25	27	29											16
21	2.41	1.47	35	38	41	44											19
24	3.14	2.08	49	54	58	62	66										22
27	3.98	2.78	65	72	78	83	88										24
30	4.91	3.58	84	92	100	107	113	119									27
33	5.94	4.48		115	125	133	141	149	156								30
36	7.07	5.47		141	152	163	173	182	191	204							32
39	8.30	6.57			183	196	208	219	229	245							35
42	9.62	7.76			216	231	245	258	271	289	316						38
48	12.57	10.44				311	330	348	365	389	426						43
54	15.90	13.51					427	449	472	503	557	595					48
60	19.64	16.98					536	565	593	632	692	748					54
66	23.76	20.83						694	728	776	849	918	981				59
72	28.27	25.08						835	876	934	1023	1105	1181	1253			64
78	33.18	29.73							1038	1107	1212	1310	1400	1485	1565		70
84	38.48	34.76							1214	1294	1418	1531	1637	1736	1830	2005	75
90	44.18	40.19								1496	1639	1770	1893	2008	2116	2318	80

Where there are other buildings within a radius of fifty (50) feet, any smoke flue which exceeds five hundred (500) square inches in area shall be carried to a height sufficient to protect such buildings from smoke and gases.

Each such chimney whose flue area exceeds seven hundred and seven (707) square inches shall be not less than one hundred (100) feet in height.

CHIMNEYS, GENERAL PROVISIONS.

Section 134. In buildings hereafter erected, altered or repaired, all chimneys shall be built of brick, stone or other incombustible material. Brick chimneys shall have outside walls at least six (6) inches in thickness, unless cast iron or tile flue linings are used, in which case the outside walls may be four (4) inches in thickness.

No person shall construct, use or maintain any chimney or other conduit for smoke, except the same be built of brick or other fireproof material, other than sheet iron, and approved by the Inspector of Buildings. Provided, however, that this provision does not prohibit the use of sheet iron smoke pipes leading from stoves or other heating apparatus to chimneys.

All chimney or smoke flues, occurring in masonry walls, shall have walls eight (8) inches thick at the back, and, when corbelled out, shall be supported by at least five (5) courses of brick-work, and, if supported by piers, the same shall be started from the foundation on the same face with the chimney above. All chimneys, occurring in brick walls, shall be bonded to the walls at every fifth (5th) course from the bottom to the top, in regular bond.

The inside of all brick flues shall be built of hard brick and shall have either struck joints or flues plastered, except when lined with cast iron or tile or where circular flues are built of brick with mortar lining.

Stone chimneys shall have walls not less than eight (8) inches in thickness, including linings, and shall have linings four (4) inches thick, if of brick; or the linings may be of either cast iron or tile.

Sheet metal smoke flues enclosed in ventilation flues are prohibited.

All chimneys shall be topped out at least three (3) feet above the top of the roof at point of contact, if a flat roof, and at least two (2) feet above the ridge of a pitched roof.

Tin or galvanized iron pipe shall not be used for flues for gas stoves or grates. All such flues shall be

constructed of either brick, tile, concrete, cast or wrought iron, and the area of any such flue shall not be less than seven (7) square inches.

The minimum area of any chimney flue, where a tile or cast iron flue lining is used, and only stoves are connected therewith, shall be fifty (50) square inches, and where such flue lining is not used, the minimum area of such flue shall be sixty-four (64) square inches. Where hot air furnaces or hot water heating plants are installed, and tile or cast iron flue linings are used, the minimum area of any such flue shall be seventy-five (75) square inches, and where such flue linings are not used, the minimum area of the flue shall be ninety-six (96) square inches.

If the area of any chimney flue exceeds two hundred and sixty (260) square inches, but is less than five hundred (500) square inches, the walls of any such chimney shall not be less than eight (8) inches in thickness.

All flues in party walls shall be kept at least two (2) inches from the party line of said walls; except in joint chimneys, in which the two (2) flues shall be separated by at least four (4) inches of brickwork throughout the entire height of such chimneys.

Timber of any kind shall not rest upon or be supported by chimney walls, but in all cases such timbers shall be kept at least one (1) inch away from the face of such walls; provided that corbelled brick fire stops shall be used between chimney and joists, as in case of walls.

No chimney shall rest upon or be carried by woodwork. Every chimney shall be erected upon a sufficient masonry foundation. No combustible furring or sheathing shall be placed against any smoke flue or chimney breast.

Hot Water and Furnace Pipes:

Section 135. In all cases where hot water, steam, hot air or other furnaces are used, the smoke-pipe shall be kept at least two (2) feet below the beams or ceilings above the same, unless said beams or ceilings shall be properly protected by a shield or tin plate suspended above said smoke-pipe, with sufficient space for free circulation of air above and below said shield or tin plate, and where said smoke-pipes are enclosed in wooden partitions they shall be properly covered with asbestos or other fireproof material.

All such smoke-pipes shall be kept at least eight (8) inches below all beams and ceilings.

Furnaces, Tops of Brick, Etc.

Section 136. The tops of all furnaces, set in brick, shall be covered with brick or other fireproof material, properly supported on iron bars, and so constructed as to be made perfectly tight. Said covering to be in addition to, and not less than six (6) inches from, the ordinary covering of the hot air chamber.

Portable Furnaces:

Section 137. The top of every portable furnace, not set in brick, shall be kept at least one (1) foot below all wooden beams or ceilings, and said beams and ceilings shall be covered with fireproof materials.

Hot Air Registers and Pipes:

Section 138. The tin piping for all hot air furnaces shall be covered with asbestos paper weighing at least one (1) pound to the square yard, and, where the pipes connect with the floor registers, they shall be kept at least one (1) inch from all woodwork, and where such registers are within eight (8) feet of the furnace, the woodwork outside the hot air pipes passing through the floors shall be lined with either tin or asbestos.

Notching of Beams or Joists for Gas, Water and Steam Pipes:

Section 139. Gas, water, steam or other pipes, which may be installed in any building, shall not be let into the beams or joists unless the same be placed within fifteen (15) inches of the ends of such beams or joists, nor be let into said beams or joists to exceed one (1) inch.

Hearths:

Section 140. Hearths for fireplaces or grates shall be laid upon brick or stone arches, or upon bars of iron supporting a bed of brickwork. The backs of all fireplaces shall not be less than eight (8) inches thick.

Metallic Chimneys and Smoke-Pipes:

Section 141. Smoke stacks or chimneys, built of iron or steel, shall be thoroughly anchored or guyed, but shall not pass through the floors of any building unless protected by fireproof walls enclosing such stack or chimney. Where smoke stacks or chimneys of iron or steel pass through the roofs of boiler-houses, such roofs shall be protected with a metal jacket.

Metallic chimneys or smoke-pipes shall not be used *in any building* in such manner as to pass through

floors or roofs of the same, unless properly protected.

Where metallic smoke-pipes of twelve (12) inches or less in diameter pass through a wood or plastered stud partition, they shall be surrounded either by a body of brick, hollow tile, or other incombustible fireproof material of a thickness of at least four (4) inches, around such smoke-pipes; or they shall be surrounded by a sheet metal thimble of two (2) concentric rings at least two (2) inches apart, and the entire thimble so constructed that there will be a free circulation of air between the two rings forming the same. Smoke-pipes of a diameter of six (6) inches or less may have thimbles with one (1) inch air space.

Metallic smoke-pipes of less diameter than twelve (12) inches, placed horizontally, shall be kept at least twelve (12) inches distant from any wood-work, and immediately over and for a distance of at least one (1) foot on each side of such smoke-pipe, the woodwork shall be covered with sheet metal or other fireproof material.

Metallic smoke-pipes of a greater diameter than twelve (12) inches and of less area than six (6) square feet, shall be kept at least sixteen (16) inches away from any woodwork, and such woodwork shall be protected as before specified for the smaller smoke-pipes, a distance of three (3) feet on each side of such smoke-pipes.

Isolated Smoke-Stacks:

Section 142. Isolated smoke-stacks for steam boilers, smelting furnaces, and all others used for similar purposes, shall have foundations of brick, concrete or stone, and all such smoke-stacks above the foundations shall be built of brick, stone, terra-cotta, iron or steel. All such foundations shall start from solid ground, if not built upon solid rock. All such stacks shall be properly constructed, in a manner approved by the Inspector of Buildings.

Isolated smoke-stacks may also be constructed of reinforced concrete, if approved by the Inspector. Provided, however, that in all cases the tops of all isolated smoke-stacks shall be covered with a heavy wire netting, if shavings or sawdust are used as fuel, where there are buildings within fifty (50) feet of such stacks.

Chimneys of Cupolas:

Section 143. Iron cupola chimneys of foundries shall extend at least ten (10) feet above the highest point of any roof within a radius of fifty (50) feet of such

cupola, and shall be covered on top with a heavy wire netting. No woodwork shall be placed within a radius of two (2) feet of the cupola.

Stoves and Ranges:

Section 144. Where stoves or ranges are set upon combustible floors, except in dwelling houses, they shall be so set as to leave an air space between them and the floor, and the floor shall be protected by sheet metal.

All brick-set or large, portable ranges shall be set on hearths of brick, slate or cement, the said hearths to extend at least twelve (12) inches beyond the face of the range.

No brick-set portable range, or heating apparatus of any kind, shall be set against a wood or lath and plaster partition.

No stove, range, oven or heating apparatus shall be used in any hotel, theater, hospital, school, hall or other building, which is occupied by more than fifty (50) persons, until the same shall have been examined and approved by the Inspector of Buildings.

Ash Boxes:

Section 145. All receptacles for ashes within the "Fire Limits" shall be of incombustible material.

Drying Rooms:

Section 146. All walls, ceilings and partitions, enclosing drying rooms, when not made of fireproof material, shall be wire-lathed and plastered, or covered with metal, tile or other incombustible material.

Bake Ovens:

Section 147. Bake ovens shall rest on solid foundations or metal beams and columns; the sides and ends shall be at least two (2) feet from any woodwork, and the crown of arch at least four (4) feet from ceilings that have wood joists. The hearth in front of bake oven shall extend at least three and one-half (3½) feet beyond the face of said oven.

Boilers Placed:

Section 148. No boiler to be used for steam or motive power shall be placed on any floor above the cellar floor, unless the same is set on non-combustible beams and arches, or on an incombustible platform.

Boiler Rooms:

Section 149. All boiler-rooms hereafter constructed in any building other than dwelling houses shall be protected with brick, iron, tile or other fireproof material, and if the ceilings of such rooms are of wood construction, they shall be protected in a manner approved by the Inspector of Buildings.

Wherever in the judgment of the Inspector of Buildings it may be necessary, in buildings already erected or which may hereafter be erected, boiler rooms shall be partitioned off in the basement or other floors on which they are located, said partitions to be constructed of fireproof materials.

Boiler rooms shall be so arranged that all openings between the said boiler rooms and other parts of the building shall be protected by iron or metal covered doors, which shall be securely closed at the end of each day. Provided, however, that this provision shall not apply to fireproof buildings.

Dangerous Chimneys:

Section 150. If any chimney, flue, fireplace or heating apparatus on any premises within the City of Minneapolis shall, in the opinion of the Inspector of Buildings, be dangerous or unsafe, the Inspector of Buildings shall at once notify, in writing, the owner, agent or other party having interest in or control of said premises, and shall require him, them, or any of them, to make the same safe.

Upon neglect of said person or persons, so notified, to comply with the provisions of said notice, for a period of forty-eight (48) hours after the service of said notice upon him or them, he or they shall be subject, upon conviction thereof, to a penalty of not less than Ten Dollars ($10.00), nor more than Fifty Dollars ($50.00), for every day's continuance of such unsafe condition thereafter, or, upon failure to pay such fine, to imprisonment not exceeding sixty (60) days.

PART XVI.

AREAS.

Permit for Area Walls:

Section 151. In all cases where area walls are to be constructed or openings in sidewalks for the admission of coal, or light, or for any other purpose, are to be made, a permit for such work shall first be obtained from the Inspector of Buildings.

Stairway Areas:

Section 152. No stairway or open area shall extend into the sidewalk more than four and one-half (4½) feet on streets having sidewalks eighteen (18) feet in width, or more than three and one-half (3½) feet on streets having sidewalks less than eighteen (18) and more than ten (10) feet in width. Provided that no area or stairway shall project into the sidewalk upon streets where such sidewalk is less than ten (10) feet in width.

Provided, however, that all such stairways or open areas shall be properly protected by smooth iron or brass railings. If such stairways occur at street corners, they shall be rounded off so that they shall have a radius not exceeding the distance that said stairways project into the sidewalks, measured at right angles to the front or side of the buildings.

Use of Street Under Sidewalk:

Section 153. Any person, desirous of constructing an area under the sidewalk adjacent to any building owned by him, shall first obtain permission from the City Council so to do, and shall construct a sufficient brick, stone or concrete wall, to retain the roadway of the street, and shall extend the side, division or party walls of such building under the sidewalk to such curb-wall. If such walls are constructed of stone, they shall average at least two (2) feet in thickness, and if constructed of brick or concrete, they shall be of such thickness as approved by the Inspector of Buildings. The sidewalk over such area shall in all cases be composed of incombustible materials, and of sufficient strength to support a safe load of at least three hundred (300) pounds per superficial foot, exclusive of the weight of the sidewalk and its supports. If I-beams and brick arches are used for the support of such sidewalks, the I-beams shall be of sufficient strength, and the arches shall have a crown of at least one (1) inch to the foot, if over six (6) feet in width, and the spandrels of such arches shall be filled with cement concrete to a level of two (2) inches above the arches. Such brick arches shall consist of not less than two (2) courses of good hard burned brick, set on edge and laid in cement, and having sufficient tie-rods between the I-beams; or reinforced concrete construction, designed as approved by the *Inspector of* Buildings, may be used in place of said *brick arches* and I-beams.

Openings in Sidewalks:

Section 154. Openings in sidewalks for any purpose, shall be covered with prismatic lights in iron frames, or with iron covers or doors having a rough surface and set in iron frames rabbeted flush with the sidewalk. The hinges for such doors shall be flush with the sidewalk, and means shall be provided for locking such doors or covers in place.

Outside Stairways from Sidewalk Prohibited:

Section 155. No person or persons shall construct or maintain a stairway leading from the sidewalk or street to any story of any building above the floor of the first story.

PART XVII.

BUILDINGS OF THE DWELLING HOUSE CLASS.

Walls:

Section 156. Buildings of the "dwelling house class" shall be taken to mean and include the following named buildings:

Apartment Hotels,
Apartment Houses,
Asylums,
Boarding Houses,
Club Houses,
Convents,
Dormitories,
Dwellings,
Flat Buildings,
Hospitals,
Hotels,
Lodging Houses,
Schools,
Sorority and Fraternity Houses,
Tenements.

For buildings hereafter erected in the dwelling house class, the minimum thickness of all outside and division walls of the same shall be in accordance with the following table:

Brick Walls

	Basement.		Minimum Thickness in Inches.					
			Stories					
	Rubble	Brick and Concrete	1	2	3	4	5	6
One Story	18	12	12	—	—	—	—	—
Two Stories	18	16	12	12	—	—	—	—
Three Stories	20	16	12	12	12	—	—	—
Four Stories	20	16	16	12	12	12	—	—
Five Stories	24	20	16	16	12	12	12	—
Six Stories	24	20	20	16	16	12	12	12

The above table shall apply to all such walls seventy (70) feet and under in length, without cross-walls, angles, piers or buttresses. If such walls exceed seventy (70) feet in length, the wall of the third story from the top of the building shall be increased four (4) inches in thickness. Provided, however, that where the thicknesses for walls allowed by the above table are used, all face brick used in such walls shall be bonded into the backing as provided in Section 34 of this ordinance, and if such walls are constructed of tile, said tile shall be of the quality, and laid and bonded with the face brick, as provided in Section 32 of this ordinance. Provided, further, that all buildings of the dwelling house class more than six (6) stories in height shall be of skeleton construction. Provided, however, that wherever concrete is used for the foundation walls of two (2) story buildings of the dwelling house class, such foundation walls may be built twelve (12) inches in thickness, if supported on concrete footings not less than ten (10) inches in thickness and eighteen (18) inches in width.

Wherever the clear span between such walls exceeds twenty-five (25) feet, said walls shall be increased in thickness, as required by the Inspector of Buildings.

In addition to the general requirements contained in this ordinance, the following specific requirements shall be adhered to in buildings of the dwelling house class:

APARTMENT HOTELS, APARTMENT HOUSES, FLAT BUILDINGS, DORMITORIES, HOTELS, LODGING HOUSES, TENEMENTS, CLUB HOUSES, FRATERNITY HOUSES, SORORITY HOUSES, AND BOARDING HOUSES.

Fireproof, When:

Section 157. Every building hereafter erected or altered to be used as an apartment hotel, apartment house, flat building, dormitory, hotel, lodging house, tenement, club house, fraternity house, sorority house or boarding house shall be of fireproof construction if such building is more than three (3) stories in height.

Section 158. Every non-fireproof apartment hotel, apartment house, flat building or tenement house, hereafter erected or altered, having more than three (3) apartments *or suites of* rooms on any floor thereof, *shall be so provided* with partitions, covered on each

side with an approved slow-burning lath, other than wood lath, and properly plastered or covered with other approved slow-burning material, that no group of more than three (3) such apartments or suites shall intervene on any floor of such building, between any two such partitions or between any such partition and the adjacent outside walls of such building.

Section 159. In every non-fireproof apartment hotel, apartment house, flat building, hotel, lodging house, dormitory, tenement house, club house, sorority house or boarding house, all wood studding partitions adjoining public halls and stairways shall be covered on both sides with approved lath, other than wood lath, and properly plastered, or the wood studding may be covered with other slow-burning materials, and the ceilings of all public halls and stairways in such building shall be covered with approved lath, other than wood lath, and properly plastered, or covered with other approved slow-burning material.

Wherever the provisions of this ordinance require that wood studding partitions be covered with slow-burning materials and wood lath is not allowed, the space between floor joists and between ceiling joists, within each such partition, shall be cut off at each floor and ceiling by a fire-stop of brick, tile, concrete or other approved fireproof material, subject to the approval of the Inspector of Buildings.

Halls to Be Provided:

Section 160. Wherever required by said Inspector of Buildings, proper halls shall be provided leading from the main halls to outside windows or doors, as exits to fire-escapes, which shall be provided as required.

Section 161. Whenever the exit from any apartment or flat into a public hallway on any floor of any non-fireproof building is located more than thirty (30) feet distant, and whenever the exit from any apartment or flat into a public hallway on any floor of a fireproof building is located more than fifty (50) feet distant, from either the head of the stairway conducting from said hallway to an outside exit from the building, or from an outside exit opening directly from said hallway onto an outside platform from which a line of outside stairs conducts to the ground, there shall be constructed on the outside walls of such building an iron stairway, fire escape, or fire escapes, in such numbers and locations that the means of egress to the ground afforded by such fire escape, or fire es-

capes, shall be accessible from a living room of each apartment or flat in such building whose exit into a public hallway is located as above described. The first story portion of any such fire escape may be a stairway so hinged and counter-balanced that it can be raised from the ground.

Section 162. Wherever a dwelling is erected on a corner lot, crosswise of such lot, there shall be a rear yard in the rear of such dwelling at least ten (10) feet in depth, which shall be unobstructed from the ground to the sky and which shall extend, of undiminished depth, across the entire width or plot of ground required by law or ordinance to be retained for said dwelling, and said rear yard shall be a part of such required plot of ground, and any such plot of ground not fronting on two streets shall, if distant more than fifty (50) feet from the street intersection, be treated as an interior lot.

Section 163. Wherever a private garage is built in connection with a dwelling, with a room or porch above the same, the walls and ceiling of such garage shall be constructed of fireproof materials throughout.

Wherever a private garage adjoins a dwelling, the walls separating such garage and dwelling shall be of brick and not less than eight (8) inches in thickness, or of tile, concrete or other approved fireproof materials and not less than six (6) inches in thickness.

HOSPITALS, ASYLUMS, ETC.

Section 167. Every building hereafter erected or altered to be used as a hospital, asylum or institution of any kind, designed for the care or treatment of persons, shall be of fireproof construction if such building is more than two (2) stories in height. Provided, however, that this provision shall not prohibit such use of non-fireproof two (2) story buildings already erected and containing sleeping rooms in the attic, provided that such sleeping rooms are not used or occupied by persons receiving care or treatment in such institution. Provided, further, that all buildings used or designed for any of the above mentioned purposes shall be provided with stairways, fire-escapes, standpipes and fire-fighting apparatus as required by the laws of the State of Minnesota relative thereto.

Every building hereafter erected or altered to be used as a hospital, asylum or institution of any kind, designed for the care or treatment of persons whose mental condition is such that it is necessary to confine them to their rooms by means of bolts, bars or other devices on the windows and doors thereof, shall be constructed of fireproof materials.

SCHOOL AND CONVENT BUILDINGS.

Fireproof Construction, If More Than One Story in Height:

Section 168. Every building hereafter erected to be used as a school or convent building shall be of fireproof construction, if such building is more than one (1) story in height. Provided that wherever, in any such building, there is, over the top story, a fireproof ceiling designed for a live load of fifty (50) pounds per square foot, the roof construction above such ceiling may be of non-fireproof construction.

Provided, however, that shop or school buildings used or designed for industrial or vocational work, and where the walls, floors, stairways and roofs are of fireproof construction and such buildings do not exceed two (2) stories and basement in height, may have temporary wooden partitions installed therein so designed and constructed that they can be readily moved at any time, and may have metal lath and plastered ceilings, provided that all exposed woodwork in such partitions is protected with at least two coats of fire-resisting paint.

Framework of Roof Non-Fireproof, When:

Section 169. Provided, however, that in any such building which is two (2) stories only in height, it shall be permissible to construct the framework of the roof of non-fireproof materials, placing thereon a roof-covering of either tile, slate, tin, galvanized iron or five-ply tar and gravel roofing; provided, however, that any stairway leading from an attic in any such building to the next lower story shall be of the enclosed type, with a proper fireproof door at the lower end of such stairway, and provided also that the ceiling of the second story of any such building shall be of fireproof construction.

Attic Containing Class Rooms Considered a Story:

Section 170. Any attic in any such building in which school or class rooms are fitted up shall be considered as a story, in the height of such building.

Additions, How Constructed:

Section 171. Where additions are made to school or convent buildings already erected, provided that such buildings are not more than two (2) stories in height, the construction may be of the same kinds of materials as used in the old buildings to which such additions are made, provided that the heating plants

in such buildings are located in fireproof rooms, and that all new stairways are constructed of fireproof materials.

Where additions of fireproof construction are made to non-fireproof school or convent buildings already erected, fire-walls shall be constructed between such new additions and the old non-fireproof portions of such buildings and all openings through such fire-walls shall be provided with fireproof doors.

Basement Class Rooms; Basement Defined:

Section 172. It shall be unlawful to construct or maintain any class room for school purposes in the basement of any school or convent building hereafter erected, except for teaching domestic science, manual training or physical culture, if the floor of such room is below the surface of the surrounding ground on all sides of such room. The basement of a school house shall be defined as that story of the building the floor of which is below, and the ceiling not more than eight feet six inches (8 feet 6 inches) above the grade of the lot on which such building stands; provided, however, that any such story in which the clear height of the ceiling above the floor exceeds fourteen (14) feet shall be considered a first story.

Height of Stories, Minimum Prescribed:

Section 173. No story above the basement story of any school building shall be less than twelve (12) feet in height.

Windows and Skylights, Glass Area of:

Section 174. The total glass area of outside windows and skylights of each class room, recitation room or study room in school buildings shall not be less than one-fifth (1-5) of the floor area of such room.

Fire-Escapes, Maintenance of:

Section 175. All fire-escapes on school buildings shall be kept in good repair and shall be kept free of ice, snow and obstructions of any kind.

Rubbish and Inflammable Materials:

Section 176. Rubbish or inflammable materials shall not be allowed to accumulate or remain in any portion of any school building.

Height of Floor of Assembly Hall or Auditorium Above Grade:

Section 177. No part of the main floor of any assembly hall or auditorium in any school or convent building, having a seating capacity exceeding four hundred (400), shall be at a greater height than ten (10) feet above the grade of the lot on which such building stands.

Stairways, Halls, Exits, Etc.:

Section 178. Stairways in school and convent buildings shall be in width at least equivalent to twenty-two (22) inches for every hundred in the seating capacity of such buildings as measured by the combined capacity of the auditorium and school rooms in each such building. Provided, however, that no more persons shall be allowed in any such building at any one time than can be properly accommodated by the stairways, halls and exits in each building.

The minimum width of stairways in any such building shall be four and one-half (4½) feet, and minimum number of stairways and of exits shall not be less than two (2).

All stairways shall have a substantial hand-rail on each side of the same, running the entire length of such stairways.

The minimum width for corridors, passageways, hallways and doors shall not be less than six (6) feet for corridors, passageways and hallways, and not less than three (3) feet for doors, except where two (2) or more doors are grouped together, in which cases the minimum width of each of such doors shall be at least two (2) feet and four (4) inches.

All doors throughout such buildings shall open outward, and all entrance and exit doors shall be unlocked at all times when such buildings are occupied for school purposes or by the public. The fastenings for all doors shall be of such type as may be easily operated by means of a lever or other satisfactory device to draw the bolts or fastenings.

Aisles and Seats:

Section 179. Aisles in auditoriums and assembly halls in school and convent buildings shall be in width equivalent to eighteen (18) inches for every hundred in the seating capacity of such auditoriums or assembly halls, but no such aisle shall be less than two (2) feet six (6) inches in width in its narrowest part. All groups of seats shall be so arranged that they shall

have an aisle on each side, but not more than twelve (12) seats in any one row shall be placed between aisles, and all such seats shall be securely fastened to the floor. Provided, however, that in small assembly halls or auditoriums of the above nature, where the seating capacity does not exceed three hundred (300) and in which the seats are substantially fastened together in groups of four (4), or more, said seats need not be fastened to the floor, and provided, further, that where the seating capacity of any such assembly hall or auditorium does not exceed sixty (60), the chairs therein need not be fastened together or to the floor if proper aisles, each at least five (5) feet in width and leading to proper exits, be provided therein.

Main aisles in class rooms, recitation and study rooms shall not be less than two (2) feet and six (6) inches in width in their narrowest parts, and ample exits shall be provided therefrom.

Obstruction of Stairs, Aisles, Corridors and Passageways Prohibited:

Section 180. All stairs, aisles, corridors and passageways in such buildings shall be kept free from stools, chairs and other obstructions, and no person shall be allowed to stand in or occupy any such stairs, aisles, corridors or passageways during any performance, service, exhibition, lecture, concert or any public assembly, nor shall there be any such chairs, camp-stools or other obstructions in such stairs, aisles, corridors or passageways at any time.

Emergency Exits and Stairways, When Required:

Section 181. Every auditorium or assembly hall, in school or convent buildings, having a seating capacity of eight hundred (800) or more, shall be provided with such emergency exits and stairways as may be required by the Inspector of Buildings.

Exit Signs and Red Lights:

Section 182. All exits from auditoriums and assembly halls shall have the word "EXIT", in letters at least six (6) inches in height, placed over each such exit on the auditorium side, and shall also be provided with a red light over each such exit, which shall be kept burning, whenever such auditoriums or assembly halls are used at night, until after the audience have left.

Proper Lighting Required at Night, During Occupancy:

Section 183. Every portion of any such building devoted to the public, and all outlets therefrom leading to the streets, shall be well and properly lighted during the entire time such building is occupied by the public at night. All gas and electric lights in the halls, corridors, lobbies, stairs and exits shall be controlled by a separate cut-off, and shall be independent of all other lights in such building.

DWELLING HOUSES.

Foundations, Thickness of:

Section 184. Foundation walls for frame, veneered, hollow brick, hollow tile or concrete block dwelling houses shall be constructed of either stone, concrete, brick, or other hard, durable material, approved by the Inspector of Buildings. If constructed of rubble-stone, such walls shall not be less than eighteen (18) inches in thickness. If constructed of brick or concrete, they shall not be less than twelve (12) inches in thickness for dwellings of two (2) stories or less in height, and for dwellings more than two (2) stories in height, not less than sixteen (16) inches in thickness. If any foundation wall of any such building exceeds forty (40) feet in length without angles, cross-walls, piers or buttresses, and said wall is constructed of either brick or concrete, it shall be increased four (4) inches in thickness.

Footings, When:

Section. 185. All twelve (12) inch foundation walls shall have footings at least six (6) inches in thickness and not less than eighteen (18) inches in width. Excepting that for dwellings having concrete foundation walls, said footings may be omitted in cases where the walls of such dwellings do not exceed fifteen (15) feet in height above the foundation walls.

Concrete Foundations, Materials, Mixture, Strength:

Section 186. Concrete foundation walls shall be made of a mixture of one (1) part of Portland cement, three (3) parts of sand and five (5) parts of gravel or crushed stone, such gravel or crushed stone to range in size from one-fourth (¼) inch to two (2) inches in the greatest dimension; or concrete foundations for dwellings may be constructed of Portland cement and coarse sand, and when so constructed, the sand shall *comply* with the following specifications: Sand shall

be clean, and shall contain not to exceed five (5) per cent of black earth or clay.

If not to exceed twenty-five (25) per cent of the sand used for such foundation will pass a number thirty (30) mesh sieve, the mix shall be equal to one (1) part of Portland cement to five (5) parts of sand.

If more than twenty-five (25) per cent of the sand will pass a number thirty (30) mesh sieve, and not to exceed fifty (50) per cent of the sand will pass such sieve, the mix shall be equal to one (1) part of Portland cement to four (4) parts of sand.

No sand shall be used for such foundations if more than sixty (60) per cent of such sand, as taken from the pit or bank, will pass a number thirty (30) mesh sieve.

In every case, however, the concrete used for such foundations shall be of such quality that its ultimate crushing strength, at the age of thirty (30) days, shall not be less than eight hundred (800) pounds per square inch.

Height of Frame Dwelling Limited:

Section 187. The maximum height for frame dwellings designed for not more than one (1) family shall be three (3) stories, and if designed for more than one (1) family, the maximum height shall be two (2) stories.

It shall be unlawful to construct dwelling houses with walls of concrete blocks, cement blocks or hollow brick, except under the following conditions:

Walls built of concrete blocks, cement blocks or hollow brick shall not be less than six (6) inches in width, and each wall so built shall be faced with four (4) additional inches of solid brick-work, well bonded to the hollow brick or blocks with number twenty-four (24) galvanized iron anchors one (1) inch wide, the brick to be laid with full joints and the anchors to be put in every sixth (6th) course, one (1) anchor to the brick.

Walls ten (10) inches in width may, however, be built of concrete or cement blocks without the above required brick facing, if all other requirements specified in this section are complied with.

Solid Walls, How Constructed:

Section 188. Provided, further, that dwellings may be erected with walls constructed of eight (8) inches of solid brick-work, having solid headers through the walls every seventh (7th) course.

Wall Length and Height Limited:

Section 189. No such walls as above mentioned shall be more than forty (40) feet in length without cross walls, angles, piers or buttresses, nor more than two (2) stories in height, except as above provided, and the total height of such walls, from the foundation walls, shall not exceed twenty-two (22) feet.

Materials Must Be of Sufficient Strength:

Section 190. Provided, however, that all such materials as above mentioned shall have sufficient effective crushing strength to safely sustain both their weight and the floor loads that may be transmitted to the walls.

Hollow Tile in Bearing Walls of Dwellings:

Section 191. Hollow tile may be used for primary bearing walls of dwellings (and such bearing walls are defined as walls that may be used to receive directly the loads from floors or roofs), provided that the ratio between thickness of wall and free height between floors does not exceed fifteen (15), that the dead-and-live load does not exceed one-tenth (1-10) of the crushing strength of the tile, and that the crushing strength of the bearing area of the tile is not less than six hundred (600) pounds per square inch. The thickness of such tile walls for dwellings shall not be less than eight (8) inches, the total height of such walls shall not exceed twenty (20) feet, and the length of such eight (8) inch walls shall not exceed thirty (30) feet. The webs of all such bearing tile shall not be spaced apart from each other more than three and three-fourths (3¾) inches, center to center. Such tile shall not contain to exceed fifty-five (55) per cent of voids. Every tile bearing wall shall be so designed and constructed that there shall be at least four (4) vertical webs in the thickness of said wall, and said webs shall be so spaced that no interval between such webs will exceed two and seven-eighths (2 7-8) inches. All such tile shall be so laid in the wall that the vertical webs will be placed directly over each other, and said tile shall be laid in Portland cement that does not contain to exceed five (5) per cent of lime-putty. All tile shall be so laid as to have full mortar joints.

Tile Bearing Walls to Be Plastered On Both Sides, How:

Section 192. All such tile walls, when used as *bearing* walls for dwellings, shall be plastered on the

outside with Portland cement mortar and on the inside with hard wall plaster. All floor joists supported by said walls shall have a bearing over at least two (2) vertical webs of the tile.

Hollow Tile Walls With Facing of Brick or Tile:

Section 193. Provided, however, that the above provisions shall not prohibit the construction of dwellings of the dimensions above described and constructed with a four (4) inch brick or special facing tile, with a backing of eight (8) inches of hollow tile of the above required strength for twelve (12) inch walls, and with a backing, for eight (8) inch walls, of four (4) inches of such hollow tile, laid with a through bonding block every second (2nd) block in every sixth (6th) course.

Hollow Concrete Blocks in Bearing Walls of Dwellings:

Section 194. Provided, further, that hollow concrete building blocks equal in their combined width to the thicknesses required for brick walls, in Sections 40 and 156 of this ordinance, for the various buildings designated therein, may be used for such buildings three (3) stories or less in height, except as hereinbefore provided in this section for dwellings. Provided, however, that said blocks shall be composed of a mix at least equal to that provided for foundation walls for dwelling houses.

Concrete Blocks, How Made:

Section 195. The materials composing such blocks shall be thoroughly mixed, a sufficient amount of clean water being used so that the water will rise to the surface when the concrete is tamped into the moulds. Provided, further, that the hollow space in said blocks, when used in any wall, shall not exceed the percentage given in the following table, the figures given in the table representing the percentages of such hollow space:

Height of Building.	Basement.	1st Story.	2nd Story.	3rd Story.
1 story	33	33	.....	.....
2 stories	33	33	33	.....
3 stories	25	25	33	33

Not to Be Used Until Matured:

Section 196. All such blocks, before being used in the construction of any building within the City of Minneapolis, shall have attained the age of at least three (3) weeks.

Where Girders Rest Upon Such Walls:

Section 197. Whenever girders rest upon walls, the hollow space in the concrete blocks composing such walls shall be filled solid with concrete, of the same material of which the blocks are composed, for a distance of four (4) feet below said girders and of eighteen (18) inches on each side of said girders, or more if the Inspector of Buildings shall deem necessary.

Loads on Such Walls Restricted; Required Strength of Blocks:

Section 198. Provided, always, that no wall composed of concrete blocks of any make or shape, in any building of any character whatsoever, or in any part thereof, shall be loaded in excess of one-tenth (1-10) of the ultimate strength of said blocks, and that no blocks shall be used which will crush under a less load per superficial inch of the solid bearing area of said blocks than that required for blocks of the same age by the following table, which gives the minimum strength required according to the age of the blocks tested or crushed:

Age of Block.	Ultimate Strength.
30 days	800 pounds per square inch
60 "	875 " " " "
90 "	950 " " " "
120 "	1025 " " " "
150 "	1100 " " " "
180 "	1175 " " " "
210 "	1250 " " " "
240 "	1325 " " " "
270 "	1400 " " " "
300 "	1475 " " " "
330 "	1550 " " " "
360 "	1625 " " " "

If any such concrete blocks should be tested at any time between the periods named in the above table, the strength required shall be figured in the same ratio as that employed in the above table.

Manufacturer to Mark Each Block and Register Trademark:

Section 199. Each and every manufacturer of concrete blocks in the City of Minneapolis shall impress on each and every concrete block manufactured by him or them the month and year in which such block *was made,* together with a distinctive trademark

whereby all concrete blocks manufactured by him or them may be identified, and shall file with the Inspector of Buildings a copy or facsimile of such trademark and the names of all the responsible officers of the company or corporation using said trademark.

Must Have Blocks Tested, When Required:

Section 200. Each and every such manufacturer of concrete blocks shall deliver at least once in every four (4) months, or as often as required by the Inspector of Buildings, at the testing laboratory of the Department of Buildings, in the City Hall, a group of at least three (3) concrete blocks of his or their own manufacture, said blocks to be selected in each case by the Inspector of Buildings or one of his assistants, and said Department of Buildings shall test said blocks free of charge.

Failing to Stand Test, Blocks to Be Condemned:

Section 201. In case said sample blocks, so selected and tested, do not stand the test required by this ordinance, then the Inspector of Buildings may condemn, wherever found, any or all of such blocks that may have been made by said manufacturer since the last previous test, and said manufacturer shall destroy the same under the direction of the Inspector of Buildings, when ordered so to do.

Tests, How Made:

Section 202. The compression or crushing test of said blocks shall be made as follows: The sample shall be carefully measured, then bedded flatwise in plaster of Paris, to secure a uniform bearing in the testing machine. The load shall then be applied gradually and the specimen crushed. The ultimate strength of the block in pounds per square inch shall be the quotient obtained by dividing the total load (in pounds), under which the block crushed, by the area in square inches of the solid bearing surface presented by the block tested.

Concrete Piers, Buttresses, Lintels and Sills, How Made:

Section 203. All piers and buttresses that support loads shall be of solid concrete or of solid concrete blocks. Wherever required by the Inspector of Buildings, concrete lintels and sills shall be reinforced by iron or steel rods, in a manner satisfactory to such *Inspector.*

Tests of Materials or of Structure to Be Made, When Required:

Section 204. The manufacturer and user of any such materials as are mentioned in this section, or either of them, shall at any and all times, when required by the Inspector of Buildings, make such tests of the materials entering into the construction of any building, and of the completed structure, or of either of them, at their own expense, and under the supervision of the Inspector of Buildings, as the said Inspector shall require.

Penalties:

Section 205. Each and every person who shall use, in the construction of any building within the City of Minneapolis, any concrete blocks or other materials which may have been condemned by the Department of Buildings, and each and every person who shall fail to destroy all of the concrete blocks or other materials manufactured by him and condemned and ordered destroyed by the Inspector of Buildings, and each and every person, company or corporation who shall violate any provision of this section of this ordinance, shall be subject, upon conviction thereof, to a fine of not less than Twenty-Five Dollars ($25.00) nor more than One Hundred Dollars ($100.00) for every offense, or, upon failure to pay such fine, to imprisonment not exceeding ninety (90) days.

PART XVIII.

PLASTERING.

Section 206. It shall be unlawful for any person, firm or corporation to commence or proceed with any inside plastering or outside stucco work on any building or structure in the City of Minneapolis without first obtaining and having a permit therefor from the Inspector of Buildings, or to fail or neglect to comply with the provisions of this ordinance relating to plastering and stucco work, and all such work shall be done under the supervision and subject to the inspection and approval of the Department of Buildings of said city. Provided, however, that no permit shall be required for any job of inside plastering work not exceeding one hundred (100) square yards.

No person, firm or corporation shall carry on the business of plastering or stucco work within the City

of Minneapolis without first having obtained a license so to do from the City Council.

Every person applying for a license under this section of this ordinance must maintain a place of business in the City of Minneapolis and no such license shall be granted to any person less than twenty-one (21) years of age.

Each license granted pursuant to the provisions of this ordinance shall be issued by the City Clerk, from books prepared by him for that purpose, and on the stub of which shall be kept the name of the licensee, his business location, the date of granting, and the date of issuing the license, and such other details as may be necessary to form a complete reference and memorandum of the license.

Each such license shall terminate the first Monday in May next succeeding the issuance of the same, unless sooner revoked or forfeited, and shall not be transferrable or assignable. Upon the presentation of satisfactory proof to the City Council that said licensee has failed to conform with any provisions of this ordinance relating to plastering and stucco work, the City Council shall revoke such license.

The license fee for each such license shall be fixed at ten dollars ($10.00) per annum, which license fee shall be paid to the City Treasurer before the issuance of such license.

On receiving his license the licensee shall have recorded in the office of the Inspector of Buildings his actual place of business, giving the street and number, and in case of removal therefrom, shall immediately notify said Inspector of the same.

Walls and Partitions Behind Wainscoting to Be Plastered:

Section 207. The surface of all walls and partitions back of any wainscoting in any building hereafter constructed, enlarged or repaired within the City of Minneapolis shall be plastered with at least one coat of plastering of three-eights (3-8) inch or more in thickness, unless such wainscoting is placed against a fireproof wall.

Key; Lath Joints:

Section 208. All ceilings, studding partitions and furred walls of all buildings, when plastered with lime mortar on wood lath, shall have not less than a three eighths (3-8) inch key, and the ends of the lath shall *not be crowded tight* together.

Three-Coat Work:

Section 209. Wherever three-coat plastering work is to be done, there shall be provided, on all partition and wall openings, seven-eighths (7-8) inch grounds, or the frames shall be set projecting seven-eighths (7-8) of an inch outside of the face of the studding, said grounds or frames to be of substantial construction and set true and straight. Lath shall in no case be used as grounds. The first or scratch-coat of all three-coat work shall be made of materials and proportions at least equal to the following: The lime shall be of the best quality, evenly and thoroughly burned lime-stone. The sand shall be of angular grains, sharp, properly screened and free from loam or other deleterious substances. The hair binder shall be water-soaked, well beaten, clean, long winter hair, or approved vegetable fibre cut in two (2) inch to three (3) inch lengths may be used for such binder.

First or Scratch-Coat:

The mortar for the first or scratch-coat shall be mixed in the proportions of one (1) barrel of lump lime, two and one-half (2½) barrels of clean, sharp sand, and the binder in the proportion of two (2) pounds of hair or three (3) pounds of fibre to one hundred (100) pounds of lump lime. Said coat shall be at least three-sixteenths (3-16) of an inch thick, and shall be well keyed into the lath. It shall be scored or scratched with diagonal lines in two directions nearly through its thickness. The lime shall be thoroughly slacked, the putty being allowed to cool before incorporating the hair, to avoid burning. The sand shall then be added and thoroughly mixed and the mortar banked for a least one (1) week before it is applied.

Second or Brown Coat:

The second or brown coat shall be at least one-fourth (¼) inch thick and shall not be applied until the scratch-coat is dry, and it shall be brought to a true plane. The mortar shall be composed of one (1) barrel of lump lime to five (5) barrels of sand, with binder in the proportion of one (1) pound of hair or fibre to one hundred (100) pounds of lump lime. The mortar for said brown coat shall be prepared as for the scratch-coat, and banked for at least one (1) week before it is applied.

Third or Finish Coat:

The third or finish coat shall be the best quality of

prepared finish or well slacked lime putty gauged with plaster of Paris, or plaster of Paris with marble dust or white sand in combination. The mix shall be proportioned as follows: To one (1) part of plaster add two (2) parts of white mortar. The lime shall be thoroughly slacked in a box, mixing in a small proportion of white sand or marble dust. It shall then be run through a No. 10 mesh wire sieve into a storage box and allowed to stand for at least forty-eight (48) hours before gauging with plaster and applying the finish coat.

Hydrated limes of approved brands may be used in place of lump lime. The third coat when finished shall present an even and true surface.

Cornices or Coves:

Section 210. All cornices or coves shall be run straight, true and smooth.

Patent or Hard Wall Plasters:

Section 211. Patent or hard wall plasters shall be of brands approved by the Inspector of Buildings, and shall be received at the scene of building operations in the manufacturer's original packages and shall be mixed and applied in accordance with the manufacturer's specifications. The lath shall be spaced not less than one-fourth (¼) of an inch apart, joints to be broken at least every ninth (9th) lath, leaving a space between ends of laths. The mortar of patent or hard wall plasters shall be applied promptly after mixing, and with sufficient pressure to form a good and sufficint key or clinch on the opposite side of said lath. The several coats to be applied in the manner prescribed in either Section 209 or Section 212 of this ordinance.

Two-Coat Work:

Section 212. Lath shall in no case be used as grounds. All grounds or jambs for two-coat work, where patent plasters are used, shall be of substantial construction and shall project beyond the face of the studding or wall three-quarters (¾) of an inch. Where wood lath are used for such work, they shall be spaced not less than one-quarter (¼) of an inch apart, with joints broken every ninth (9th) lath. The proportions of the materials for two-coat patent plaster work shall be the same as specified by the manufacturers of the plaster used, and shall be applied promptly after mixing and with sufficient pressure to insure a good key

or clinch on the opposite side of the lath. The first coat shall be straight, true and square to the floor line, leaving an even and regular surface, and the second coat shall not be applied until the first coat shall have thoroughly dried out.

All white mortar finishing coats, on any kind of plastering work, shall be laid on and trowelled to a smooth surface, leaving, on completion, neither deficiencies nor brush marks.

Plastering on Wire or Metal Lath:

Section 213. In all cases where plastering is applied to wire or metal lath, said plastering shall be three-coat work, consisting of a scratch-coat, brown or second coat, and finish coat, the finish coat to be put on as desired by the owner.

Plastering on Concrete Work:

Section 214. Wherever plastering is applied to concrete work, the concrete shall be thoroughly cleaned and wet before the plastering is put on. Wherever unsanded patent plaster is used, the proportion of plaster to sand in the mix of the first or scratch-coat shall be not less than one (1) part of plaster to one (1) part of sand, and such plaster shall be so applied as to thoroughly cover all concrete work to which it is applied.

Exterior Stucco Work:

Section 215. All exterior stucco work shall consist of three-coat work; first, a scratch-coat; second, a brown coat; and third, a dash or finish coat.

Whenever expanded metal lath is used for exterior stucco work, it shall not be less in thickness than No. 24 United States standard gauge, and shall weigh not less than three and four-tenths (3.4) pounds per square yard; and whenever woven wire lath is used for such work, the wire used in the manufacture of wire lath shall not be less in thickness than No. 23 United States standard gauge, and shall weigh not less than three and four-tenths (3.4) pounds per square yard. All metal and wire lath to be fastened on with galvanized staples not less than one (1) inch in length, and spaced not more than six (6) inches apart vertically and not more than twelve (12) inches apart horizontally. All such lath shall be painted or coated with rust-resisting material.

The first coat of all such stucco work shall consist of one (1) part Portland cement and two (2) parts of sand, and sufficient hair shall be added thereto to

properly bind the mortar. Provided, however, that not to exceed ten (10) pounds of lime putty may be added to each sack of Portland cement, at the discretion of the architect or owner. Said first coat shall be properly scratched with diagonal lines in two directions, nearly through its thickness, and shall be thoroughly set before the second coat is applied.

The second coat shall consist of one (1) part Portland cement and not more than two and one-half (2½) parts of sand. No lime shall be used therein, and said second coat shall be thoroughly dry before the third coat is applied.

The third coat shall consist of one (1) part of Portland cement and not more than one and one-half (1½) parts of sand or pebbles, and may be finished as directed by architect or owner.

The thickness of the first two (2) coats of such stucco plastering shall not be less at any point than five-eighths (5-8) of an inch, measured from the outer side of the lath. No such stucco work shall be done in freezing weather and, whenever such work is done in hot weather, it shall be sprayed occassionally with water so as to prevent it from checking or cracking.

Wherever non-furring metal, consisting of expanded metal lath, woven wire lath or wire lath, is used for stucco work, furring at least one-fourth (¼) of an inch in thickness shall be properly fastened to the outside walls in a vertical position, said furring to be spaced not more than eight (8) inches on centers.

Basement Walls, Plastering on Interior of:

Section 216. Wherever the interior walls of basements are plastered below the grade of the lot, Portland cement mortar shall be used.

Inspector to Be Notified Before Plastering Is Commenced:

Section 217. Every contractor, before doing any plastering work on any building in the City of Minneapolis, shall first notify the Inspector of Buildings as to when the work of plastering is to be commenced.

PART XIX.

VENTILATION.

Section 218. Every room used as a theater, moving picture house, auditorium, basement, salesroom, basement workshop, candy kitchen, restaurant or public garage, and every other room occupied by persons where the nature of the use or occupancy of such room

is such as to render the air therein impure and unsanitary, shall be properly and sufficiently ventilated, and the Inspector of Buildings is hereby given authority to order and enforce such regulations, changes and installations as may, in his judgment, be necessary to properly ventilate and provide pure air and sanitary conditions in any such room.

PART XX.

MISCELLANEOUS.

Buildings Shall Not Project Beyond the Building Line:

Section 219. The face of any wall, pilaster or column of any building, above the level of its main water table, shall not project beyond the building line, except as hereinafter provided. Provided, however, that said water table shall not be at a greater height than four (4) feet above the highest point of the sidewalk, or sidewalks, adjacent to the building in which such water table occurs, nor shall any such water table project over the building line more than four (4) inches.

Trimmings for windows, and cornices may project four (4) inches over the street line.

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The plinths and columns of porticos or entrances to buildings may extend over the street line two (2) feet; but such porticos shall not be more than one (1) story in height, nor less than six (6) feet from the adjoining property line.

Steps or stairs to any building shall not project into the sidewalk if such walk is less than twelve (12) feet in width. Provided, however, that on streets having boulevards between sidewalk and lot line, the porches of buildings shall not project over the building line, nor shall the steps from such buildings project into the sidewalk.

Bay and oriel windows shall not project over the street line more than three (3) feet, and no such window shall be at a less distance than twelve (12) feet above the grade of the sidewalk, in business buildings, nor less than eight (8) feet in dwelling houses. Provided, however, that no bay window shall be allowed within four (4) feet of any party line, or in any alley, and that no such bay window shall be allowed to project into any street which is fifty (50) feet or less in width.

Where brackets project more than fourteen (14) *inches from* any building, they shall be kept at least *seven (7)* feet above the sidewalk.

Iron Bars and Posts:

Section 220. Iron bars shall not be driven in the roadway of any street for the purpose of attaching guy ropes. Such iron bars, or wooden posts, may be driven at the side of a roadway for the purpose of attaching guy ropes. If wooden posts are used, they shall not be less than eight by eight (8x8) inches, and sixteen (16) feet in length, and shall be set into the ground at least four (4) feet, and all guy ropes attached to such bars or posts shall be kept at least ten (10) feet above the surface of the street.

Red Lights:

Section 221. Any person having the use of any portion of the street or sidewalk, for the purpose of erecting or repairing any building, or for any other purpose, shall cause red lights to be placed in a conspicuous place, or places, in front of any obstruction occurring in the street or sidewalk at that location, from dark until sunrise, each and every night during the time such obstruction remains, in such numbers as may be necessary to properly warn traffic of such obstructions.

Walk and Fence Around Building Material:

Section 222. A sidewalk or passageway, at least four (4) feet in width, shall be kept in front of any building during the progress of its construction, and shall extend from the side of the permanent sidewalk in front of each lot adjoining the sides of the lot on which such building is being erected. Such sidewalk, if temporary, shall be laid out around the space to be used for the materials to be employed in the erection of such building, but shall be laid wholly within that part of the street which is so permitted to be used for such building materials.

Any such sidewalk shall at all times be kept clear for the passage of persons over the same, except when materials are being handled over said sidewalk, and no person shall leave any material, tools, implements or machinery thereon.

Such sidewalk, if temporary, shall be constructed of two (2) inch plank, laid lengthwise, on good and sufficient sleepers, laid three (3) feet apart.

The respective ends of said temporary sidewalk shall be laid even with the sidewalk to which it is connected.

A fence four (4) feet in height shall be constructed from the line of the curb to the building line, on both

sides of any place where the permanent sidewalk shall be removed or obstructed by any building operations.

Street Permits Must Be Obtained:

Section 223. No person shall use or occupy the street or sidewalk for building operations without having first completed all such sidewalks and fences as herein above required, and having obtained, through the Inspector of Buildings, permission of the Mayor to so occupy said street or sidewalk, and during the time of such occupation of the street or sidewalk for such building operations, the person or persons so occupying said street or sidewalk shall maintain and keep in repair all such temporary sidewalks and fences.

Gutterways:

Section 224. The gutter or water-way of any street, avenue or alley shall not at any time be obstructed by any building materials or by any earth, sand or gravel, but such gutter or water-way shall at all times be kept clear to allow the free passage of water in and along the same.

Sidewalk to Be Covered, When:

Section 225. Whenever any new building abutting directly upon any street within the "Fire Limits" of the City of Minneapolis shall have attained the height of one (1) story, or whenever it may become necessary to unroof or take down any building so abutting upon any street within the said "Fire Limits", or to perform any work thereon whereby risk may be incurred to any person or persons passing the same, it shall be the duty of the party or parties erecting, unroofing, taking down or performing any work on any such building, or of the owner thereof, to erect a good and substantial covering over the sidewalk, at least six (6) feet in width and ten (10) feet in height, to be approved by the Inspector of Buildings.

Debris To Be Dampened:

Section 226. Every contractor or other person, in repairing or tearing down buildings, or in removing debris from any buildings, shall keep all such debris occasioned thereby thoroughly dampened with water so as to prevent the dust therefrom from flying around the neighborhood where any such building is located.

Curb or Paving, How To Remove:

Section 227. Whenever in the construction, alteration, repair or removal of any building within the City of Minneapolis, it shall be necessary to remove any of the paving or curb in the street in front of said building, or in the alley adjacent thereto, either for the purpose of making excavations or for setting derrick-posts, the Inspector of Buildings shall not issue a permit for said proposed work until the applicant for such permit presents to the Inspector of Buildings a permit from the City Engineer for the removal of said paving or curb, together with a receipt from the City Treasurer for the amount of money necessary, according to the estimate of the City Engineer, to defray the expense of relaying said paving and resetting said curb.

Roofs for Buildings Outside of "Fire Limits":

Section 228. No provision of this ordinance pertaining to fire-proofing shall be construed to prohibit the use of any non-combustible roof construction for non-fireproof buildings that does not provide all the fire-proofing required for such roof construction when used in fire-proof buildings. Provided, however, that all steel reinforcement used in any such non-combustible roof construction shall have at least one-half (½) of an inch rust-proof covering.

SKY-LIGHTS.

Section 229. All sky-lights exceeding fifty (50) superficial feet in area shall have frames and sash constructed entirely of iron.

Wherever sky-lights are hereafter installed upon the roof of any building, the frame-work for such sky-lights shall project two and one-half (2½) feet above the roof surrounding such sky-lights, or, such sky-lights shall be protected by a wrought iron pipe railing, two (2) pipes high, the top pipe to be not less than one (1) inch and the lower pipe not less than three-quarters (¾) of an inch in diameter. Standards to support such railing shall not be of less than one (1) inch wrought iron pipe, and they shall be well secured to the roof. Railings shall be well secured to the standards, and the top rail placed thirty-six (36) inches, and the bottom rail eighteen (18) inches, from the roof line.

SCUTTLES; PENT HOUSES ON ROOFS.

Section 230. All buildings two (2) stories or more in height, having roofs with a rise not exceeding five

(5) inches to the foot, shall have, in every portion thereof separated by a division wall, at least one (1) scuttle not less than two (2) by three (3) feet in dimensions, with a stationary ladder leading thereto from the top floor, or at least one (1) stairway leading from the top floor to a pent house above the roof and having a door not less than two (2) by six (6) feet in dimensions, which stairway, if enclosed, shall be provided with a substantial hand-rail, and, if not enclosed, shall be provided with substantial guards or hand-rails on both sides, and all ladders or stairways shall be of such materials as allowed in the class of buildings in which they are constructed. All such ladders and stairways shall lead out of a public hall, if the top floor is divided into rooms.

All scuttle covers, pent houses, and the doors of such pent houses, on buildings having incombustible roofs, shall be of incombustible roofing or covered with tin or galvanized iron, and such covers and doors shall be fastened on the inside only, with a movable hook or bolt, which can be withdrawn without the use of a key.

CORNICES.

Section 231. Incombustible cornices shall be well secured to the walls, and in all cases the walls shall be carried up to the roof line behind the cornice, and, where the cornice projects above the roof, the walls shall be carried up to the top of the cornice, and all exterior wooden cornices on brick, stone or fireproof buildings, that shall hereafter require to be replaced, shall be constructed of incombustible materials, as required for new buildings.

Every exterior wooden cornice or gutter, on brick, stone or fireproof buildings, that may be hereafter damaged by fire or the elements to a greater extent than one-half (½) of the original value thereof, shall be taken down, and, if replaced, shall be constructed in accordance with the provisions of this ordinance.

FIREPROOF SHAVING VAULTS.

Section 232. No building shall be used or occupied, in whole or in part, for any of the trades or occupations hereinafter mentioned, to-wit:

Planing mills, sash, door and blind factories, carpenter or cooper shops, wagon or carriage manufactories, cabinet and furniture factories, wood turning and veneering works, agricultural implement manufactories, box or shingle factories, or any other woodwork fac-

tory or shop, unless such building so occupied shall have in connection with it a brick or fireproof vault of sufficient capacity to contain all the shavings, sawdust, chips or other light combustible refuse connected therewith; and all shavings and other light combustible refuse shall be removed each day from such premises to such vault.

In no event shall the proprietors, owners or lessees of any of the above named manufactories or shops allow combustible refuse to accumulate upon any lot, or in any building, unless stored in a fireproof vault.

SMOKE HOUSES.

Section 233. Smoke houses shall be constructed throughout of incombustible materials, and shall be provided with ventilators at or near the top, and with guards not less than four (4) feet above the fire-bed, sufficient to prevent the meats from falling into the fire.

If such smoke houses open into other buildings, such openings shall be protected by fireproof doors or shutters.

GARAGES.

Fireproof, When:

Section 234. All garages hereafter erected, more than two (2) stories in height, shall be of fireproof construction.

Public Garages and Repair Shops, Council Permission Required:

No person, partnership or corporation shall hereafter erect, place, maintain or operate any public garage or public automobile repair shop, or move or alter any building to be used for either of such purposes, without first obtaining permission from the City Council of the City of Minneapolis so to do, and the Inspector of Buildings of said city shall not grant a permit for the erection, removal, alteration or rearrangement of any building for any of the aforesaid purposes until after such permission, as above required, shall have been obtained from said City Council.

The terms "public garage" and "public automobile repair shop" shall be taken to mean and include any building used or intended to be used for the sale, housing, repairing or rebuilding of automobiles, for a fee or other reward, and in which gasoline or other volatile oils are kept, stored or maintained within such

"public garage" or "public automobile repair shop" or in the automobiles kept, stored, maintained or allowed therein.

One Story Private Garages, Wall Thickness:

The outside walls of all one (1) story private garages, covering not to exceed six hundred (600) square feet of ground area, if constructed of brick, concrete or tile, shall be not less than eight (8) inches in thickness.

Private Garages, Council Permission Required, When:

No person, partnership or corporation shall hereafter erect or place any private garage or alter any building to be used for private garage purposes, within thirty (30) feet of any public street or within fifteen (15) feet of any flat or apartment building, or erect, move or alter any building having a ground floor space of more than six hundred (600) superficial feet, to be used as a private garage, without first obtaining permission from the City Council of the City of Minneapolis so to do, and the Inspector of Buildings shall not grant a permit for such erection, placing or alteration of any such building, until such permission shall have been obtained from said City Council.

Basement or First Floor Containing Garage, to be Fireproof, When:

It shall be unlawful to construct, occupy or maintain any garage in the basement or first floor of any non-fireproof building herein designated, except in accordance with the following regulations:

Wherever any floor of any building is used as a garage for the housing of an automobile or automobiles, and gasoline, or other volatile oils are kept, or stored, either within such garage or in any automobile kept, stored or allowed therein. and the floors above are used as an apartment hotel, apartment house, flat building, dormitory, hotel, lodging house, club house, boarding house or dwelling, the floor over said garage shall be of fireproof construction, and all stairways or openings from said garage communicating with any floor above shall be enclosed within fireproof walls, and all doors connecting therewith shall be fireproof, and arranged so as to close automatically. Provided, however, that in no case shall a regular repair shop be fitted up or occupied in connection with any such building. Provided, further, that nothing in this

paragraph shall prevent the finishing of one room over any detached private garage, said room to be used only as a lodging apartment for a mechanic or man of all work about the premises.

Stove or Open Gas Heaters in Garages Prohibited:

No wood or coal stove or open gas heater shall be installed or maintained in any garage where gasoline is used.

RAINWATER LEADERS.

Section 235. All buildings now or hereafter erected, fronting on a street, shall be kept provided with proper leaders for conducting the water from the roof to the ground, sewer, street gutter, or dry-well, in such manner as shall protect all walls and foundations from damage therefrom. In no case shall water from such roofs be allowed to flow upon the sidewalk. No person or persons shall construct or maintain any rainwater leader except in accordance with the provisions of this section.

DECORATIONS IN STORES.

Section 236. It shall be unlawful to use cotton-batting, paper flowers or evergreens in the show-windows or other parts of stores for decorating purposes.

PLACES OF PUBLIC ASSEMBLY.

Section 237. In every building hereafter erected or altered that is to be used or is to contain rooms to be used as an assembly room (other than in school and convent buildings) and an assembly room shall, for the purposes of this section of this ordinance, include all rooms used, or to be used, for roof gardens, dancing, banquets, lectures, lodges, entertainments, observation towers, instruction or exhibition purposes, stairways shall be provided in accordance with the provisions of "Class IV", section 115 of this ordinance. Provided, however, that wherever the area of any such building is of such dimensions as to require more than twenty (20) feet of stairway, the excess width of exit required may be provided for by the installation of outside iron stairways where the top floor of such building does not exceed fifty (50) feet above the level of the sidewalk, if approved by the Inspector of Buildings. In all such stairways, the risers shall not exceed seven and one-half (7½) inches in height and the treads shall not be less than ten (10) inches in width, exclusive of nosing. The width of all such

stairways shall be measured between the hand rails. No roof garden or observation towers shall be constructed or placed upon the roof of any non-fireproof building over two stories in height, nor shall any other such room as above mentioned be constructed or altered to be used above the third floor in any non-fireproof building, nor shall any such room be constructed or altered to be used over the stage of any opera house or theater. Provided, however, that roof gardens and observation towers may be constructed over fireproof theaters, opera houses and hotels, provided that they are constructed entirely of non-combustible materials, except that where such roof gardens or towers are not enclosed, wooden gratings may be used on the top of the fireproof roof. Each such roof garden or tower shall be provided with separate entrances, with enclosed fireproof stair halls, elevators and roof bulkheads, leading directly to the street.

Every roof over such garden or other rooms shall have supports of fireproof materials, and, if covered, such covering shall be of glass or other fireproof material or both.

All assembly rooms provided for by this section of this ordinance shall be designed to carry loads equivalent to those required by this ordinance for auditoriums or places for public assemblage.

All egress openings in places of public assemblage shall have the word, "Exit", conspicuously placed over them, and whenever such places are occupied at night, a red light shall be displayed on the inside of such places over each exit and the stairways leading to the street shall be well lighted.

All aisles or passage ways in such assembly rooms, and in all other places of public assemblage, shall at all times be kept clear and unobstructed.

In all places of public assemblage mentioned in this section of this ordinance with accommodations for one thousand (1,000) or more persons there shall be provided standpipes connected with the city water mains and equipped with proper valve and hose attachments in such locations and numbers as the Chief Engineer of the Fire Department shall require.

Wherever buildings containing public halls or moving picture theaters are provided with galleries having a seating capacity exceeding two hundred and fifty (250) persons, there shall be reserved, for use and service as emergency exits, an open space or alley at *least* seven (7) feet in width on each side of the *building,* where said building is not located on a

corner lot, and on the side not bordering on the street, where said building is located on a corner lot, and said open space or spaces shall be open to the sky, and shall begin on a line with the front line of the gallery and extend throughout its length. In all cases where the open space or spaces above provided for do not extend to a street or public alley, a separate and distinct corridor shall be built from each such open space to a street or public alley, with continuous walls, floors and ceilings, of brick or other fireproof materials, extending the entire length of said corridor.

Iron or concrete stairways, at least three (3) feet in width, shall be provided, in said open space or spaces extending from the gallery floor to the ground, and one such stairway shall be provided on each side of the gallery for every three hundred (300) people, or fraction thereof, which said gallery accommodates. Exits shall also be provided in the same numbers and of the same width as stairways, opening from each such balcony onto such stairways.

Provided, however, that in any such fireproof moving picture theater building, where the seating capacity of the gallery, does not exceed four hundred (400), and where the seating capacity of the ground floor does not exceed eight hundred (800), and there are provided at least two (2) fireproof stairways, each at least four and one-half (4½) feet in width and leading directly from the gallery to the street, and where there are provided exits from the ground floor, exclusive of the gallery exits, of at least sixteen (16) feet in their aggregate width for the front exits leading to the street, and two (2) exits in the rear, each at least five (5) feet in width leading directly to an alley, such open spaces or alleys on the sides of such building as above provided for need not be required. Provided, further, that any stage in such moving picture theater not exceeding one hundred and fifty (150) feet in floor area, nor exceeding six (6) feet in depth may be permitted, provided that such stage is not used for theatrical or operatic performances and that no stage scenery is installed or employed in connection therewith.

LIVERY, BOARDING, SALE OR EXCHANGE STABLES, ETC.

Section 238. No person or persons shall hereafter erect or alter any building to be used as a livery, board*ing, sale or exchange* stable, or erect or alter any

building to be used as a boiler-shop, rendering house, glue factory or store-house for ice or for hides, within the City of Minneapolis, until he or they shall have made application to the City Council to build or alter such proposed building for any of the purposes above named, and the Inspector of Buildings shall not grant a permit for the erection or alteration of any building for any of the purposes named in this Section, without the approval of the City Council of such application and also the written consent of the Aldermen of the Ward in which such building is located, or is to be located.

Wherever horses are stabled in basements, or on the second floor of any stable or barn, there shall be provided ample exits, with proper runways, not less than six (6) feet in width, leading direct from such basement or second floor to the outside of the building.

SPECIAL PROVISIONS OF GENERAL APPLICATION.

Buildings Used for More Than One Purpose:

Section 239. Where any building is used for more than one of the purposes herein classified, specified or defined, such portion of any such building as is devoted to the use and purposes of any one particular class, as defined and provided for in this ordinance, shall be constructed, operated and maintained in accordance with the requirements of this ordinance which relate to such class or purpose, unless such construction, operation or maintenance would prove impracticable or would conflict with other provisions of this ordinance relating to the construction of buildings, in either of which cases the construction of the entire building shall conform to the requirements of this ordinance governing that class of buildings for which (of the several classes under which would be included the several purposes for which the different portions of said building are used) the best and safest construction is required.

SPECIAL REQUIREMENTS SHALL GOVERN.

Section 240. Whenever any provision or requirement of this ordinance, relating specifically to the construction, equipment, maintenance or operation of any building, or of any portion of any such building, which is used as a whole for the purposes of any one specified class of buildings, shall conflict with the general provisions of this ordinance, relating to the con-

struction, equipment, maintenance or operation of buildings generally, the special provisions above mentioned shall govern in each case.

PART XXI.

SIGNS AND AWNINGS.

Section 241. No person, except a licensed sign hanger, shall hereafter install any sign upon the outside walls or upon the roof of any building within the City of Minneapolis, and every person shall, annually, before engaging in such occupation, obtain a license therefor, and no such license shall be granted until the person applying therefor shall have given a bond in the sum of Five Thousand Dollars ($5,000.00), with good and sufficient sureties, to be approved by the City Council, conditioned, among other things, that said party will indemnify and save harmless the City of Minneapolis from any and all charges, costs, expenses, judgments or damages caused by reason of any negligence upon the part of said person, or of any servant or employe of such person, or by the use of any insufficient or insecure support or attachments, or improper or unsuitable or unskilled workmanship, in the erection, construction, installation or placing of any sign that may be erected or installed upon the walls or roof of any building by said person.

Said licensed person shall, in each and every instance, before installing any sign for the installation of which a permit is required under the provisions of this ordinance, obtain a permit therefor from the Inspector of Buildings.

Signs:

Section 242. (a) The word "sign" shall mean any device or surface on which letters, illustrations, designs, figures, or any other symbols, are painted, printed, stamped, raised, or in any manner outlined or attached, and used for display.

(b) The word "occupant", as used in this ordinance, in relation to "signs", shall mean any person, firm or corporation owning or renting, and occupying, a building or any part thereof, and for the purpose of carrying on business therein.

Wherever it is stated in this ordinance that only one sign is permitted for any occupant of a building, it shall mean but *one* overhanging sign advertising the *wares or business of* that occupant only.

(c) Frontage: Wherever the term "frontage" is used in Part 21 of this ordinance, it shall be taken to mean a section of the front of the building, twenty [illegible] feet in width, extending from the ground to the top of the building.

(d) Area: Wherever the word "area" is used in Part 21 of this ordinance, it shall be taken to mean the surface included within the frame work of any sign, measured from outside to outside of such framework, ladders and scrollwork not included.

Permits:

Section 243. (a) It shall be unlawful to install any sign in any manner upon, or attached to, or supported by, any building, on the exterior thereof, in the City of Minneapolis, except as herein provided, without first obtaining a permit therefor from the inspector of Buildings.

(b) No permit shall be required for the installation of any sign, the area of which, computed by multiplying its greatest width by its greatest length, is less than three (3) square feet; nor for the installation of any sign installed flat against the wall of any building, provided the top of such sign does not extend more than ten (10) feet above the grade of the sidewalk in front of such building; nor for a sign that is painted directly upon the outside wall of a building; nor for the replacement of the removable display board or panel or other removable display surface of a sign having a stationary framework or structure so designed that a display board or panel or other display surface may be inserted therein or attached thereto or removed therefrom whenever desired without unfastening or removing said stationary framework or structure from its supports; nor for signs loosened from their supports, and taken down, painted and replaced without any change having been made in their size or form, or in the ownership thereof.

(c) Signs one (1) foot, or less, in thickness and attached flat against the face of a building abutting on a street, alley or public property, or attached as close thereto as the construction or projections of the building will permit, shall not be held to project over such street, alley or public property, for the purposes of this ordinance, and shall not be subject to the regulations for signs projecting over a street, alley or public property.

(d) Every licensed sign hanger, applying for a permit for the installation of a sign, shall state the

name of the owner of such sign, the location of the building on which it is to be installed, the size and cost of the proposed sign and the materials of which it is to be constructed and such other information in connection therewith as may be required by the Inspector of Buildings, and, when required by the Inspector of Buildings, shall file in his office, plans and specifications for such sign, which shall show the proposed design and construction of such sign and the manner in which it is to be attached to the building on which it is to be installed, and the nature and size of the materials to be used in such installation.

(e) In the case of each electric sign manufactured and wired without the City of Minneapolis, but to be installed within said city, no permit for the hanging of such sign shall be issued by the Inspector of Buildings until a permit covering the wiring of such sign shall have first been secured from his office by a licensed electrician who thereby assumes all responsibility for bringing said wiring into conformity with the requirements of the ordinances of the City of Minneapolis; nor then until said wiring shall have been inspected and approved by the Electrical Inspector of the Department of Buildings.

Banner Signs:

Section 244. (a) The term "Banner Sign" shall mean any sign made of canvas or other cloth, with or without framework.

(b) No banner sign shall be more than one hundred and twenty (120) square feet in area, and not to exceed one (1) such sign shall be attached to any twenty (20) feet of frontage on any building fronting on public property.

(c) No banner sign shall extend over public property.

Wood Signs:

Section 245. (a) No wood sign, attached to the face of a building, shall exceed fifty (50) square feet in area, for any twenty (20) feet of frontage on such building, nor shall more than one (1) such sign be attached, on any one story, to each face of a building for any occupant thereof, nor shall any wood sign exceed three (3) feet in width, or be placed above the third floor of any building.

(b) No wood sign shall project more than five (5) *feet over public property.*

(c) No wood sign, projecting over public property, shall exceed fifteen (15) square feet in area, nor shall more than one (1) such sign be attached to each face of a building for any occupant thereof.

Metal and Metal Clad Wood Signs:

Section 246. (a) A metal clad wood sign, to comply with the provisions of this ordinance, shall be completely covered with sheet metal, not lighter than No. 27 U. S. Gauge.

(b) Metal clad wood signs may have a border of wood, provided that such border does not exceed three (3) inches in width.

(c) No section of a metal clad wood sign, attached to the face of a building, shall exceed sixty (60) square feet in area, at any story, for any twenty (20) feet of frontage of such building.

(d) No metal or metal clad wood sign shall project more than five (5) feet over public property.

(e) No metal or metal clad wood sign, projecting over public property, shall exceed twenty-five (25) square feet in area, nor shall more than one (1) such sign be attached to each face of a building for any occupant thereof.

Wire Mesh or Open Signs:

Section 247. (a) A wire mesh or open sign, within the meaning of this ordinance, shall be any sign constructed of wire mesh or open metal work in such a manner that the total area of the openings in the sign shall at least equal one-half (½) the total area of the sign.

(b) No section of a wire mesh or open sign, attached to the face of a building, shall exceed one hundred (100) square feet in area, at any story, for any twenty (20) feet of frontage, of such building.

(c) No wire mesh or open sign, projecting over public property, shall exceed one hundred and twenty-five (125) square feet in area, nor shall more than one (1) such sign be attached to each face of a building for any occupant thereof.

(d) No wire mesh or open sign, placed parallel to the face of a building, shall extend more than two (2) feet over public property, measured on a line at right angles to the face of the building.

(e) No wire mesh or open signs, attached at any angle to the face of a building, shall project more than five (5) feet over public property, measured on a line at right angles to the face of the building.

Glass Signs:

Section 248. (a) No section of a glass sign attached to the face of a building shall exceed forty (40) square feet in area, at any story, for any twenty (20) feet of frontage, of such building.

(b) No glass sign shall project more than five (5) feet over public property.

(c) No glass sign, projecting over public property, shall exceed forty (40) square feet in area, measured on all the combined display faces of the sign, nor shall more than one (1) such sign be attached to each face of a building for any occupant thereof.

(d) Glass box signs, projecting over public property, shall not project more than five (5) feet, nor exceed forty (40) square feet in area, measured on all the combined display faces of the sign, nor shall more than one (1) such sign be attached to each face of a building for any occupant thereof.

(e) The glass used in glass signs shall be either double strength or plate glass. If double strength is used, no pane shall exceed nine (9) square feet in area, and, if plate glass is used, no pane shall exceed twenty (20) square feet in area. Glass signs shall be so constructed that each pane of glass is securely fastened to the body of the sign, independently of all other panes.

(f) Glass signs may be constructed of wood or metal sashes or borders, but no such sash or border shall exceed four (4) inches in width.

Electric Signs:

Section 249. (a) An electric sign, within the meaning of this ordinance, shall be any sign, the letters or figures of which are outlined by incandescent electric lamps placed in grooves or channels, forming such letters or figures, or studded directly into the faces of such letters or figures, or on which the letters or figures are outlined by perforations or transparent devices through which light from incandescent electric lamps is transmitted. Signs on which the letters or figures are painted, placed or raised, and illuminated by exterior lamps so placed as to reflect light onto said letters or figures in the above described manners, shall be electric signs within the meaning of this ordinance, and shall be subject to the regulations hereinbefore provided for electric signs.

(b) Signs illuminated by electric lights, and the display faces of which are made of glass, shall be subject to the regulations hereinbefore provided for

glass signs, and shall also conform to all requirements relating to the wiring of electric signs, as provided for in the ordinances of the city, pertaining to electric wiring.

(c) No section of an electric sign, attached to the face of a building, shall exceed one hundred and fifty (150) square feet in area, for any twenty (20) feet of frontage.

(d) No electric sign, attached substantially parallel to the face of a building and projecting over public property, shall exceed one hundred (100) square feet in area or project more than two (2) feet over any public property; nor shall more than one (1) such sign be attached to each story of a building for any occupant thereof, for any twenty (20) feet of frontage.

(e) No electric sign, attached at any angle to the face of a building, shall project over public property more than ten (10) feet, measured along the sign in the direction of projection, except as provided in Section 250 of this ordinance; nor shall more than one (1) such sign be attached to each face of a building for any one occupant thereof, nor shall two (2) such signs, or portions thereof, be placed together so as to form a "V"-shaped sign. No electric sign, placed at any angle over public property, shall exceed one hundred and fifty (150) feet square feet in area.

(f) The distance between the principal parallel faces of an electric sign, projecting over public property, shall not exceed one (1) foot.

(g) Every electric sign, projecting over public property, shall be lighted by a sufficient number of incandescent electric lamps to give at least ten (10) candle power of light for every square foot of sign area, measured on all the combined display faces of such sign.

(h) Before any electric sign is installed in place, or the wiring in the same concealed, the erector or manufacturer thereof shall notify the Electrical Inspector in the Department of Buildings of the City of Minneapolis, who shall make, or have made, an inspection of such sign within forty-eight (48) hours thereafter, and, if approved by said inspector, said sign may then be installed in place. After such sign is erected or installed in place, the said Inspector shall again be notified that a final inspection and acceptance thereof is desired, and said Inspector shall make such inspection within forty-eight (48) hours thereafter.

Signs on Marquises or Fixed Awnings, and on Porticos:

Section 250. (a) Any marquise, fixed awning or portico, projecting over public property, may have a sign on each or any face thereof, but every such sign shall be built as an integral part of the marquise, fixed awning or portico, and no such sign shall extend in any direction beyond the marquise, fixed awning or portico itself, nor shall any such sign exceed twenty (20) inches in height, nor shall more than one (1) such sign be permitted on any one side of a marquise, fixed awning or portico extending over public property.

(b) No projecting sign shall be placed under or below any marquise, fixed awning or portico, projecting over public property, unless the lowest part of such sign is at least ten (10) feet above the sidewalk.

Roof Signs:

Section 251. (a) Every sign, placed upon the roof of a building, shall be either a metal, metal clad, open wire or open metal sign.

Such a sign may, however, have letters, figures, characters or borders of wood, provided that such borders do not exceed four (4) inches in width, and that such wooden letters, figures or characters do not cover to exceed twenty-five (25) per cent of the area of such sign. Provided, however, that no metal clad, wood, roof sign shall exceed one hundred (100) square feet in area.

(b) No sign, placed upon the roof of any buildings, shall project beyond the edge of said roof in any direction.

(c) No sign shall be so placed on the roof of any building as to prevent free passage of persons from one part of said roof to another part thereof.

(d) Every sign, exceeding one hundred (100) square feet in area and placed on the roof of any building, where such roof is not a pitched roof, shall be so supported that there shall be a clear space of at least three (3) feet between the top of such roof and the bottom of such sign.

(e) Every roof sign, exceeding one hundred (100) square feet in area, shall have a substantial framework of structural iron or iron pipe, and all facings of any such sign shall be of metal, provided that wood strips *not exceeding* four (4) inches in width *may be used as a backing* for such facing.

Signs; Miscellaneous Requirements:

Section 252. (a) No projecting sign, of any class hereinbefore referred to, mentioned or described in this ordinance, shall have a greater weight than two thousand (2,000) pounds.

(b) All signs referred to in this ordinance, attached to or placed on any building, shall be thoroughly secured thereto by iron or metal anchors, bolts, supports, chains, stranded cables, steel rods or braces. No staples shall be used for securing any projecting sign to any building. All projecting and roof signs shall be constructed and braced to withstand a horizontal wind pressure of at least thirty (30) pounds for every square foot of surface exposed.

(c) No sign of any kind shall be attached to or placed upon any building in such a manner as to obstruct any fire escape, or any window or door leading thereto, nor shall any sign be attached, in any form, shape or manner, to a fire escape.

(d) Every sign, projecting over public property, or attached to the face of a building abutting on public property, or attached to or placed upon the roof of any building, and all the supports, guys, braces and anchors for each such sign, shall be thoroughly and properly painted at least once in each two (2) years; and the Inspector of Buildings may order the removal of any such sign that is not so painted, or the supports, guys, braces and anchors of which are not so painted, and it shall be unlawful for the owner or person having charge of such sign not to remove the same after receiving notice from the Inspector of Buildings so to do.

(e) No sign, projecting over public property, shall be so hung that the lowest point thereof will be less than ten (10) feet above the level of the sidewalk, except such signs as do not exceed four (4) square feet in area and do not project over public property more than eighteen (18) inches, which signs shall be hung not less, at any point, than seven and one-half (7½) feet above the level of the sidewalk, and excepting, also, signs projecting over public driveways, which shall not be hung less than fourteen (14) feet above the level of any such driveway.

(f) No sign erected before the passage of this ordinance shall be repaired, altered or moved, without being brought into compliance with the requirements of this ordinance.

(g) Every electrical sign shall be wired and installed in a manner satisfactory to the Inspector of Buildings.

(h) Every sign, hereafter erected and attached in any manner to a building, shall be plainly marked with the name of the contractor erecting such sign, and the month and year of its erection.

(i) Every sign installed within the City of Minneapolis prior to the passage of this ordinance, which does not comply with all the requirements hereof, shall, within one year from the passage of this ordinance, be taken down or be so changed and installed as to conform to all of the provisions of this ordinance, relating to signs.

Marquises, or Fixed Awnings:

Section 253. No marquise or fixed awning shall hereafter be so erected as to project over the street line, within the City of Minneapolis, until permission shall have first been secured from the City Council of the City of Minneapolis to erect such marquise or fixed awning.

Every marquise or fixed awning shall have its framework constructed of metal, and shall be so designed as to safely sustain a load of at least fifty (50) pounds per superficial foot of its upper surface. Wherever glass is used as the roof of a marquise or fixed awning, it shall be wire-glass and not less than three-eighths (3-8) of an inch in thickness.

No marquise or fixed awning shall extend beyond the curb line.

No marquise or fixed awning shall be, at any point, at a less height than eight (8) feet and six (6) inches above the sidewalk. Each marquise or fixed awning shall be provided with proper gutters and rainwater leaders to conduct water from its roof, and, wherever there is a public sewer in the adjacent street, such rainwater leaders shall be connected therewith.

In no case shall a marquise or fixed awning be supported at its outer side or front by columns or posts, but such marquise or fixed awning may be supported by properly designed and properly anchored cantilever beams, extended into the building, or by chains or steel rods properly fastened to its outer side or front and extending from thence, at an angle of at least forty (40) degrees with the horizontal plane, to the wall of the building, and securely anchored to said wall and to the floor or roof construction or the columns *of such building*. Where any marquise or fix-

ed awning is supported by chains or steel rods, as above provided, the diameter of the metal of the links composing such chains, and of such rods, shall be not less than seven-eighths (7-8) of an inch, and supporting chains or rods shall be not less than two (2) in number, and more shall be provided when required by the Inspector of Buildings.

Awnings:

Section 254. Where awnings are attached to buildings, the framework shall be of metal, and no part of said frame work shall be at a height of less than seven and one-half (7½) feet above the sidewalk, and no part of the awning shall be less than seven (7) feet above the sidewalk.

PART XXII.

HOUSE MOVING.

House Movers to Be Licensed:

Section 255. No person, except a licensed house mover, shall remove, raise or hold up any building within the limits of the City of Minneapolis, and every person shall, annually, before engaging in such occupation, obtain a license therefor.

No such license shall be granted until the party applying therefor shall have given a bond, in the sum of Three Thousand Dollars ($3,000), with good and sufficient sureties, to be approved by the City Council, conditioned, among other things, that said party will pay any and all damages which may be caused to any property, either public or private, within the City of Minneapolis, whether such damage or injury shall be inflicted by said party or his agents, employes or workmen; and conditioned, also, that said party will save and indemnify, and keep harmless, the City of Minneapolis against all liabilities, judgments, costs and expenses, which may in any wise accrue against said city in consequence of the granting of such license, and will in all things strictly comply with the provisions of this ordinance and with the conditions of any and all permits which may be issued to him thereunder.

Upon the execution of said bond and its acceptance by the City Council, the license shall be issued.

Shall Obtain a Permit:

Section 256. Every licensed house mover shall, in each and every instance, before raising, holding up or

moving any building, obtain a permit therefor from the Inspector of Buildings.

If any person desires to have any building moved through or across the streets of the City of Minneapolis, such person shall first obtain the written consent of the Alderman of the ward where such building is located, and also the written consent of the Aldermen of the ward or wards through which and into which said building is to be moved. Said written consent, above provided for, shall designate the route over which said building is to be moved, and said licensed house mover shall file said written consent with the Inspector of Buildings, and, thereupon the Inspector of Buildings shall grant said licensed house mover a permit to move said building. Said permit shall state specifically the route to be taken and shall limit the time for the removal of said building.

Provided, however, that if one of the Aldermen of any ward affected by such removal of any building, as above provided for, shall be absent from the city, the consent of one of the Aldermen of such ward shall be sufficient; and provided, further, that in no case shall a building be moved that is not worth sixty per cent (60%) of the cost of a similar new building.

In every case, in which a permit shall be issued, as herein provided, for the removal of a building, when such removal requires the displacement of any overhead electrical or other wires, it shall be the duty of the person, association or corporation owning, operating or controlling such wires to remove or displace the same, so far as the same may be necessary to effect the removal of said building to the point to which the removal thereof shall be authorized by such permit.

The person to whom said permit shall have been issued shall notify the person, association or corporation owning, operating or controlling said wires to remove or displace the same to facilitate the removal of said building, and shall, at the same time, exhibit to said person, association or corporation the properly issued permit authorizing the removal of said building, and it shall thereupon be the duty of said person, association or corporation, within twenty-four (24) hours thereafter, to remove or displace said wires, at their own expense, sufficiently to allow the passage of said building along the street over which said wi are suspended.

No building shall be moved across any ste *street railway tracks,* except between the ho

one (1:00) and five (5:00) a. m., unless otherwise permitted by the company controlling such tracks.

PART XXIII.

VIOLATIONS, PENALTIES, ETC.

Violations:

Section 257. The continued violation of any provision of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provision hereof shall continue.

No owner, builder, contractor, architect, or other person, shall construct, maintain, alter, repair or remove, or cause or permit to be constructed, maintained, altered, repaired or removed, any building in the City of Minneapolis, contrary to the provisions of this ordinance.

Penalty:

Section 258. Any person who shall violate any provision of this ordinance shall, unless herein otherwise provided, be subject, upon conviction thereof, to a fine of not less than Five Dollars ($5.00) nor more than One Hundred Dollars ($100.00) for every offense, or, upon failure to pay such fine, to imprisonment not exceeding ninety (90) days.

Previous Ordinances Repealed:

Section 259. An ordinance entitled, "An Ordinance to Regulate the Construction, Alteration, Maintenance, Repair and Removal of Buildings within the City of Minneapolis", approved August 14, 1909, and all subsequent ordinances amendatory of said ordinance, and Section 185 of an ordinance entitled, "An Ordinance to Regulate the Construction, Alteration, Maintenance, Repair and Removal of Buildings within the City of Minneapolis", approved July 10, 1903, and the penal clause enforcing the same, are hereby repealed.

This Ordinance to Take Effect, When:

Section 260. This ordinance shall take effect and be in force from and after its publication.

Passed April 28, 1916. Platt B. Walker, President of the Council.

Approved May 4, 1916. W. G. Nye, Mayor.

Attest: Henry N. Knott, City Clerk.

CERTAIN GENERAL ORDINANCES

AN ORDINANCE

Prohibiting the use of certain heating devices in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person or persons shall hereafter, in any closed room in any building in the City of Minneapolis in which there is not sufficient ventilation to prevent unhealthy conditions by reason of the use thereof, use or cause to be used any heating device commonly known as a "salamander", or any heating device whatever which throws off any noxious or injurious gas or gases, unless the same shall be properly connected with some flue or chimney properly constructed for carrying off smoke and gases, excepting, however, from the provisions of this ordinance gas stoves, excepting when installed in accordance with the provisions of existing ordinances relative thereto, kerosene stoves and electric heating devices.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Minneapolis, be punished by a fine not exceeding One Hundred Dollars or by imprisonment not exceeding ninety days.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed May 10, 1918. A. P. Ortquist, President of the Council.

Approved May 16, 1918. Thomas Van Lear, Mayor.

Attest: Henry N. Knott, City Clerk.

AN ORDINANCE

Regulating the installation and use of insulating material in, on or about buildings and structures in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. Where any heating boiler or furnace and pipe connecting thereto is not provided with insulation, the owner shall cover the wood joists and

ceiling and partition walls, if they are within three (3) feet of the heating boiler or furnace or smoke pipes, using asbestos air cell board or other fire-resisting insulation not less than one-half inch in thickness, that may have been heretofore or shall be in the future approved and accepted by the Inspector of Buildings; said insulation to extend at least two (2) feet on all sides and beyond the size of said boiler, furnace or smoke pipe. Properly plastered ceilings shall be, for the purposes of this ordinance, accepted in lieu of other fire-resisting insulation.

Section 2. Where it is desired by the owner to insulate the heating system by other than asbestos covering, the heating boiler, furnace and smoke pipe shall be covered with fire-resisting material not less than one (1) inch in thickness, and known to the trade as asbestos or magnesia cement, or other fireproof material approved by the Inspector of Buildings, applied in block or plastic form, and the surface finished smooth and clean which may be covered with a canvas or cloth jacket providing that such cloth jacket, if used, shall be painted with two coats of fire-resisting paint, approved by the Inspector of Buildings.

Section 3. No pipe shall be covered with non-fireproof covering within three (3) feet of any boiler, heater, smoke pipe, breeching, gas jet or tank heater, and no gas jet or swinging bracket shall be maintained within two (2) feet of any pipe covering.

Section 4. Where the insulation used for covering the pipes is finished with a cloth jacket, all surfaces of such installation, within three (3) feet of any smoke pipe, breeching, gas jet or tank heater, shall be painted with two coats of fire-resisting paint approved by the Inspector of Buildings.

Section 5. Steam or hot water pipes may be insulated by the use of asbestos, 85 per cent magnesia, or any other fire-proof covering approved by the Inspector of Buildings. Woolfelt covering or any other non-fireproof covering may be used under the construction specified in the following sections.

Section 6. Woolfelt covering applied on hot water pipes or steam pipes carrying 10 lbs, steam pressure, or less, shall be not less than one-half inch in thickness and have an asbestos lining weighing not less than six pounds to each 100 square feet of surface.

Section 7. All pipe covering applied on steam pipes carrying more than 10 lbs. steam pressure shall have a core of fireproof material which may be made of

asbestos corrugated paper not less than one-half inch in thickness and over this woolfelt not less than one-half inch in thickness may be permitted for insulation as desired; or such steam pipes may be covered with not less than one-eighth (1-8) inch plain solid asbestos and over this woolfelt not less than seven-eighths (7-8) inch in thickness may be permitted where insulation is desired.

Section 8. Every section of covering used in connection with hot water or steam plants shall bear a label or stencil giving trade and manufacturers' name, the composition and thickness of the covering, and any dealer in pipe covering who shall label or stencil such covering in violation of this section shall be lable to the penalty provided for in this ordinance.

Section 9. Any person, or persons, who shall violate any provision of this ordinance shall be subject, upon conviction thereof, to a fine of not less than ten dollars ($10.00) nor more than one hundred dollars ($100.00) for every offense, or, upon failure to pay such fine, to imprisonment not to exceed ninety (90) days.

Section 10. This ordinance shall take effect and be in force from and after its publication.

Passed May 23, 1919. Louis N. Ritten, President of the Council.

Approved May 31, 1919. J. E. Meyers, Mayor.

Attest: Henry N. Knott, City Clerk.

AN ORDINANCE

Relating to and Regulating the Construction, Operation and Use of Smoke Stacks, and the Construction, Reconstruction, Alteration, Repair and Operation of Furnaces, Boilers, Smoke Stacks and other Apparatus Connected with Smoke Stacks, and the Operation of Portable Boilers, in Connection with Steam Shovels, Dredges, Excavators, Ditching Machines, Concrete Mixers, Hoisting Rigs and other Devices, in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, firm or corporation shall hereafter construct, reconstruct, alter or repair any furnace, boiler, stack or other apparatus connected with such stack within the corporate limits of the City of Minneapolis, excepting those installed in private residences or flat and apartment houses containing not

to exceed two apartments or flats, until he or it shall have made application to the Inspector of Buildings for, and shall have obtained from him, a permit for such construction, reconstruction, alteration or repair, and he or it shall, on demand, furnish said Inspector with proper and sufficient plans and specifications, in duplicate, showing the style and dimensions of the furnace, boiler, stack and other apparatus connected with the stack intended to be used, a description of the building or part thereof in which such furnace, boiler or other apparatus is located, and a general description of all provisions intended for the purpose of preventing smoke, together with a statement of the kind of fuel intended to be used and of the operating requirements to be made of the furnace, or furnaces, and other apparatus referred to therein. No such permit shall be issued by the Inspector of Buildings until after the application for the same shall have been approved by the Smoke Inspector in the Department of Buildings. Provided, however, that minor or emergency repairs which do not increase the capacity of any such furnace, boiler, stack or other apparatus, and which do not involve any alteration in the method or efficiency of smoke prevention in connection therewith may be made without securing a permit therefor. The Smoke Inspector shall either approve or disapprove of any such application and of any plans and specifications submitted in connection therewith within ten (10) days after the filing of the same with the Inspector of Buildings.

Section 2. No person, firm or corporation shall operate within the corporate limits of the City of Minneapolis any portable boiler in connection with any steam shovel, dredge, excavator, ditching machine, concrete mixer, hoisting rig or other device, until after he or it shall have made application to the Inspector of Buildings for, and shall have obtained from him a permit to operate such machinery or device, and he or it shall furnish said Inspector, on demand, with such plans and specifications, in duplicate, of the device intended to be used, as said Inspector may deem necessary, showing, among other things, the style and dimensions of the furnace, boiler and stack intended to be used, and all provisions intended to be made for the prevention of smoke, together with a statement of the kind of fuel to be used and the operating requirements to be made of such portable boiler or device. The Smoke Inspector in the Department of Buildings shall either approve or disapprove of the application to

any such permit within five (5) days after the filing of such application with the Inspector of Buildings.

Whenever the application for any such permit as above required is approved by the Smoke Inspector and the permit so applied for issued, said Smoke Inspector shall mark or stamp such portable boiler with some distinguishing sign by which he may know that he has approved such boiler, and with the date of such approval. All such permits shall expire one year from date of issuance.

Section 3. Whenever plans and specifications are filed in the office of the Inspector of Buildings, as hereinbefore provided, one copy of such plans and specifications shall, upon their being approved by the Smoke Inspector, be returned to the owner, and one copy shall remain on file in the office of the Inspector of Buildings.

Section 4. The person, firm or corporation applying for any such permit as hereinbefore mentioned shall upon receiving the approval of the Smoke Inspector of his or its application, pay to the Inspector of Buildings a fee for the desired permit, in the sum of two dollars ($2.00), and upon the payment of said fee, the Inspector of Buildings shall issue such permit. All fees collected under this ordinance shall be paid over to the City Treasurer by the Inspector of Buildings daily, or as soon after collection as practicable.

Section 5. It is hereby declared to be unlawful for any person, firm or corporation to permit of the emission of offensive odors from any smoke stack or chimney under his or its charge or control, and the Smoke Inspector, in the Department of Buildings, is hereby given authority to order the extension of any smoke stack or chimney, or to order such other changes and alterations in any plant where garbage or other materials which produce offensive odors are consumed, that will result, in his opinion, in the abatement of any nuisance arising therefrom.

Section 6. The issuance of a building permit by the Inspector of Buildings to erect, alter or repair any building in the City of Minneapolis shall not be held to in any manner void or waive any provision of this ordinance.

Section 7. The continued violation of any provision of this ordinance shall be and constitute a separate offense, under this ordinance, for each and every day such violation of any provision hereof shall continue.

partnership or corporation shall have obtained permission from the City Council of the City of Minneapolis authorizing the same, and the Inspector of Buildings of said City shall not grant a permit for any building or structure for any of the aforesaid purposes until such permission is obtained from the City Council as aforesaid; provided that this ordinance shall not apply to any building or structure in the City of Minneapolis already used and occupied by any person, copartnership or corporation for any of the purposes aforesaid.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the municipal court of the City of Minneapolis, be punished by a fine of not less than Five Dollars nor more than One Hundred Dollars for each and every offense, or upon default in the payment of such fine, by imprisonment until such fine is paid, not exceeding ninety days; and the erection or keeping or maintaining of any building or structure for any of the purposes specified in Section 1 hereof shall be deemed a separate violation of this ordinance for each day so erected, kept or maintained without permission of the City Council.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed April 26th, 1907.

ALFRED E. MERRILL,
President of the Council.

Approved May 2nd, 1907.

J. C. HAYNES,
Mayor.

Attest:
L. A. LYDIARD,
City Clerk.

AN ORDINANCE

To Designate Territory Where Certain Objectionable Occupations Shall Not be Established or Maintained.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person shall hereafter establish, or maintain, any tannery, dye house, boiler shop, rendering house, store house for oil or powder, foundry, glue factory, soap house, store house for hides, roller rink, or base ball ground, nor shall any person enlarge any established factory, workshop, warehouse or business plant or establishment by adding thereto any department of the character above described upon the following described land, to-wit:

All that portion of Government Lots One (1), Five (5) and Six (6), Section Twenty-eight (28), Township Twenty-nine (29), Range Twenty-four (24), according to the original government survey thereof, described as follows, to-wit: Oswald's Addition and Bryn Mawr, excepting Blocks One (1), Two (2), and Three (3), Oswald's Addition, according to the recorded plat thereof now on file and of record in the office of the Register of Deeds within and for Hennepin County, Minnesota, or any land within fifty (50) feet adjacent thereto on the northerly and southerly sides thereof.

Section 2. Any person violating the provisions of this ordinance on conviction thereof, shall be punished by a fine of not more than One Hundred Dollars ($100.00) for every offense or in default of the payment of such fine may be imprisoned until such fine is paid, not exceeding ninety (90) days.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed February 18th, 1910.

JOHN H. VAN NEST,
President of the Council.

Approved November 22nd, 1910.

Attest:
HENRY N. KNOTT,
City Clerk.

J. C. HAYNES,
Mayor.

AN ORDINANCE

Regulating the Location of Laundries, Baking Powder Factories and Ammonia Factories in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, copartnership or corporation shall hereafter erect, keep, operate or maintain within the limits of the City of Minneapolis any laundry, bakery, baking powder factory or ammonia factory unless such person, copartnership or corporation shall have first obtained permission from the City Council of the City of Minneapolis authorizing the same, and the Inspector of Buildings of said City shall not grant a permit for any building or structure for any of the purposes aforesaid until such permission is obtained from the City Council: Provided that this ordinance shall not apply to any building or structure in the City of Minneapolis now used and occupied by any person, copartnership or corporation for any of the purposes aforesaid.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Minneapolis, be punished by a fine of not less than Five Dollars or more than One Hundred Dollars for each and every offense, or by imprisonment until such fine is paid, not exceeding ninety days, and the continued violation of any provision of this ordinance shall be deemed a separate offense for each day such continued violation of this ordinance shall continue.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed August 25th, 1911.

ARTHUR W. SELOVER,
President of the Council.

Approved August 31st, 1911.

Attest:
HENRY N. KNOTT,
City Clerk.

J. C. HAYNES,
Mayor.

AN ORDINANCE

Prohibiting the Establishment, Maintenance and Use of any Coal Yard or Warehouse for the Storage of Coal, Lime, Cement or Plaster within Certain Districts of the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, persons, company or corporation shall hereafter establish or maintain or use any coal yard or any warehouse for the storage of coal, lime, cement or plaster, or any factory or storehouse of any kind for the manufacture, storage, keeping for sale, or selling of lumber, sash, doors, blinds, mill work, wood, barrels, boxes or other like materials, within the following described districts in the City of Minneapolis, viz:

All that part of the southwest quarter of Section thirty-three (33), Township twenty-nine (29), Range twenty-four (24), in the City of Minneapolis, Minnesota, bounded on the east by Hennepin Avenue, on the north by West Twenty-eighth street, on the west by Knox avenue and Lake of the Isles Boulevard and on the south by West Twenty-ninth street, also called Lagoon avenue.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Min-

neapolis, be punished by a fine not to exceed One Hundred Dollars, or upon default in the payment of such fine, by imprisonment not to exceed ninety days. The continued violation of any provision of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provision hereof shall continue.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed September 29th, 1911.

ARTHUR W. SELOVER,
President of the Council.

Approved October 16th, 1911.

ARTHUR W. SELOVER,
Acting Mayor.

Attest:
HENRY N. KNOTT,
City Clerk.

AN ORDINANCE

Regulating the Construction and Maintenance of Certain Buildings in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, company or corporation shall hereafter erect or maintain in the City of Minneapolis any building or storage depot where more than 50 gallons of crude petroleum, gasoline, naphtha, benzine, camphene, spirits of turpentine or any inflammable oil or oils of any kind whatever are kept or sold or are to be kept or sold within one hundred feet of any flat building, apartment house or residence building within the City of Minneapolis, without first obtaining a permit so to do from the City Council.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Minneapolis, be punished by a fine not exceeding One Hundred Dollars or by imprisonment not exceeding ninety days.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed June 28th, 1912.

ARTHUR W. SELOVER,
President of the Council.

Approved July 2nd, 1912.

J. C. HAYNES,
Mayor.

Attest:
HENRY N. KNOTT,
City Clerk.

AN ORDINANCE

Relating to and Regulating the Manufacture and Sale of Gas in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No building or plant for the manufacture of gas in the City of Minneapolis shall hereafter be established, built or maintained within twelve hundred feet from any public school or any public school grounds in the City of Minneapolis, and no permit for the construction of any building or plant for the manufacture of gas in the City of Minneapolis shall hereafter be issued by the Inspector of Buildings until permission is obtained from the City Council. And no such building or plant shall be connected by any pipe or drain with the public sewer system, of the City of Minneapolis.

Section 2. This ordinance shall take effect and be in force from and after its publication.

Section 3. Nothing in this ordinance contained shall apply to any factory or building or to the use of any factory or building built or to be used for the purpose of manufacturing oxygen or nitrogen gas, provided that the process of manufacture used does not produce any other gas or other substance such as is explosive or inflammable or is of a noxious or deleterious character.

Passed February 9th, 1912.

ARTHUR W. SELOVER,
President of the Council.

Approved February 20th, 1912.

J. C. HAYNES,
Mayor.

Attest:
HENRY N. KNOTT,
City Clerk.

AN ORDINANCE

To Regulate the Location and Establishment of Greenhouses, Concrete Block Factories, Marble Yards and other Businesses Injurious to Adjacent Property.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, natural or artificial, shall hereafter erect, alter, establish or maintain within the City of Minneapolis any greenhouse, concrete block factory, or marble works or yard for the manufacture

or sale of stone monuments without having obtained a permit therefor from the City Council. And the Inspector of Buildings shall not issue a permit for the erection or alteration of any building for any such purpose until the Council has granted such permission. Nor shall he issue any building permit for a concrete block factory unless the sand and gravel proposed to be used in such manufacture shall be found by him to be suitable therefor.

Section 2. Every violation of this ordinance shall be punished by a fine of not less than $5.00 or by imprisonment not exceeding 90 days for each offense. And the maintenance of any such prohibited business for one day shall be deemed a separate violation.

Section 3. This ordinance shall be construed as a revision and amendment of "An Ordinance to Regulate and Designate the Location of Greenhouses and Concrete Block and Sidewalk Factories within the City of Minneapolis", approved August 14, 1911, and as a substitute therefor. Provided, that all past violations of said last mentioned ordinance may be punished, and all pending prosecutions therefor shall be continued hereunder.

Section 4. This ordinance shall take effect and be in force from and after its publication.

Passed October 25th, 1912.

ARTHUR W. SELOVER,
President of the Council.

Approved October 29th, 1912.

Attest:
HENRY N. KNOTT,
City Clerk.

J. C. HAYNES,
Mayor.

AN ORDINANCE

Relating to and Regulating the Location, Construction, Erection, Maintenance and Operation of Roller Skating Rinks, Roller Coasters, Roller Coaster Structures and Other Similar Structures and Places of Amusement in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person shall hereafter locate, construct, erect, maintain or operate any roller skating rink, roller coaster, roller coaster structure or other similar structure or place of amusement at any place in the City of Minneapolis, without first having obtained a permit from the City Council so to do; and

until such permit is obtained from the City Council, the Inspector of Buildings shall not issue any permit for the building or construction of any such roller skating rink, roller coaster, roller coaster structure or other similar structure or place of amusement in the City of Minneapolis.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Minneapolis, be punished by a fine of not to exceed One Hundred Dollars or by imprisonment not exceeding ninety days.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed October 30th, 1914.

KARL DE LAITTRE,
President of the Council.

Approved November 6th, 1914.

Attest:
HENRY N. KNOTT,
City Clerk.

W. G. NYE,
Mayor.

AN ORDINANCE

To Regulate and Designate the Location of Business Buildings on Park and Portland Avenues, within the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, copartnership, association or corporation shall hereafter erect, alter, keep or maintain any building or structure to be used for business purposes on either Park or Portland avenues, between 14th street and the City Limits in the City of Minneapolis, until he or they shall have obtained permission from the City Council, to build, alter or use such proposed building or structure for such purposes as above named, and the Inspector of Buildings shall not grant a permit for the erection nor alteration of any building or structure for such purposes as above named in this section until such permission of the City Council shall have been obtained as aforesaid.

Section 2. For the purposes of this ordinance every building, other than dwellings, apartment hotels, apartment houses, flat buildings, garages and barns, shall be classed as a business building.

Section 3. Any person who shall violate any of the provisions of this ordinance shall be subject to a fine

of not less than Ten Dollars ($10.00), nor more than One Hundred Dollars ($100.00), for each and every offense, or to imprisonment until such fine is paid, not exceeding ninety (90) days; and the continued maintenance, management or operation of such business building shall be and constitute a separate offense, under this ordinance for each and every day such violation shall continue.

Section 4. This ordinance shall take effect and be in force from and after its publication.

Passed June 28th, 1912.

ARTHUR W. SELOVER,
President of the Council.

Approved July 2nd, 1912.

Attest:
HENRY N. KNOTT,
City Clerk.

J. C. HAYNES,
Mayor.

AN ORDINANCE

To Regulate and Designate the Location of Business Buildings on University Avenue Southeast, within the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, copartnership, association or corporation shall hereafter erect or alter any building or structure to be used for business purposes on University avenue southeast between 30th avenue and the city limits in the City of Minneapolis, until he or they shall have obtained permission from the City Council, to build or alter such proposed building or structure for such purposes as above named, and the Inspector of Buildings shall not grant a permit for the erection or alteration of any building or structure for such purposes as above named in this section until such permission of the City Council shall have been obtained as aforesaid.

Section 2. For the purposes of this ordinance every building, other than dwellings, apartment hotels, apartment houses, flat buildings, garages and barns shall be classed as a business building.

Section 3. Any person who shall violate any of the provisions of this ordinance shall be subject to a fine of not less than Ten Dollars ($10.00), nor more than One Hundred Dollars ($100.00), for each and every offense, or to imprisonment until such fine is paid, not exceeding ninety (90) days; and the continued work of construction or alteration or the maintenance or operation of such business building not heretofore con

structed shall be and constitute a separate offense under this ordinance for each and every day such violation shall continue.

Section 4. This ordinance shall take effect and be in force from and after its publication.

Passed September 13th, 1912.

J. D. WILLIAMS,

Vice President of the Council and President pro tem.

Approved September 17th, 1912.

J. C. HAYNES,
Mayor.

Attest:
HENRY N. KNOTT,
City Clerk.

AN ORDINANCE

To Regulate the Location of Business Buildings on Certain Streets.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person shall hereafter erect or alter any building to be used for business purposes on 50th or 51st streets east, in the City of Minneapolis, between 42nd avenue south and 27th avenue south, until he shall have obtained permission from the City Council therefor. And the Inspector of Buildings shall not grant a permit for the erection or alteration of any building for such purposes until such permission of the City Council shall have been duly granted.

Section 2. For the purposes of this ordinance every building other than dwellings, apartment hotels, apartment houses, flat buildings, garages and barns shall be classed as a business building.

Section 3. Any person who shall violate this ordinance shall be punished by a fine of not less than Ten Dollars nor more than One Hundred Dollars or by imprisonment until such fine is paid, not exceeding ninety (90) days; and the continued work of constructing or altering, or the maintenance of such business building contrary to the provisions hereof, shall constitute a separate offense for each and every day such violation shall continue.

Section 4. This ordinance shall take effect and be in force from and after its publication.

Passed October 11th, 1912.

ARTHUR W. SELOVER,
President of the Council.

Approved October 18th, 1912.

Attest: ARTHUR W. SELOVER,
HENRY N. KNOTT, Acting Mayor.
City Clerk.

AN ORDINANCE

Prohibiting the Erection of Buildings to be Used for Other Than Residence Purposes on Chicago Avenue, Between 15th and 17th Streets South.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. It shall be unlawful for any person hereafter to erect or maintain or cause to be erected or maintained any store, factory or other building of any kind to be used for any purpose other than a family residence, on any lot or parcel of land abutting upon Chicago avenue, in the City of Minneapolis, between 15th street east and 17th street east. Provided, however, that this ordinance shall not be construed to prevent the building of an addition to the residence of Oscar L. Roy to be used as a store at number 1601 Chicago avenue in said City, according to plans therefor drawn by Long & Lamoreaux, Architects, not to come nearer to sidewalk than the Thompson residence in the same block. Providing, however, that lots 4 and 5, block 2, Keesling's Addition to the City of Minneapolis, shall be exempt from any and all provisions of this ordinance

Section 2. Any violation of this ordinance shall be a misdemeanor punishable by a fine of not less than Ten Dollars nor more than $50 or by imprisonment for not less than ten nor more than 90 days, and each day of continued maintenance of any building forbidden by this ordinance shall be a separate offense.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed January 17th, 1913.

KARL DE LAITTRE,
President of the Council.

Approved January 20th, 1913.

Attest: W. G. NYE,
HENRY N. KNOTT, Mayor.
City Clerk.

AN ORDINANCE

Prohibiting the Erection, Maintenance and Use of A Apartment House, Duplex House, or Garage Bui

ing, Exceeding Two Stories in Height Fronting or Abutting on Mount Curve Avenue in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, persons, company or corporation shall hereafter erect, maintain or use any apartment house, duplex house or garage building exceeding two stories in height fronting or abutting on Mount Curve Avenue in the City of Minneapolis as said avenue now exists extending on the east from Bryant avenue south to Morgan avenue south on the west within said city.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Minneapolis, be punished by a fine not to exceed One Hundred Dollars ($100.00), or upon default of the payment of such fine by imprisonment not to exceed ninety (90) days. The continued violation of any provision of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provisions hereof shall continue.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed December 8th, 1911.

ARTHUR W. SELOVER,
President of the City Council.

Approved December 9th, 1911.

Attest: ARTHUR W. SELOVER,
HENRY N. KNOTT, Acting Mayor.
City Clerk.

AN ORDINANCE

Prohibiting the Erection, Maintenance or Use of Any Apartment House, Duplex House, or Garage or Other Building, Exceeding Two and One-Half Stories in Height, Fronting or Abutting on Dupont Avenue South, Between Mount Curve Avenue and Lincoln Avenue in the City of Minneapolis, Minnesota.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, persons, company or corpora-
ion shall hereafter erect, maintain or use any apart-
nt house, duplex house or garage or other building
eeding two and one-half stories in height, front-

ing or abutting on Dupont avenue south, between Mount Curve avenue and Lincoln avenue, in the said City of Minneapolis.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof, before the Municipal Court of the City of Minneapolis, be punished by a fine not to exceed One Hundred Dollars ($100.00), or upon default of the payment of such fine by imprisonment not to exceed Ninety Days (90 days). The continued violation of any provision of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provisions hereof shall continue.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed November 8th, 1912.

ARTHUR W. SELOVER,
President of the Council.

Approved November 14th, 1912.

Attest: J. C. HAYNES,
HENRY N. KNOTT, Mayor.
City Clerk.

AN ORDINANCE

Prohibiting the Erection, Maintenance and Use of Any Apartment House, Duplex House or Garage Building Exceeding Three Stories in Height Fronting or Abutting on any Park Boulevard Upon or Along the Shores of Any Lake in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, persons, company or corporation shall hereafter erect, maintain or use any apartment house, duplex house or garage building exceeding three stories in height fronting or abutting on any park boulevard upon or along the shores of any lake in the City of Minneapolis, Minn.

Section 2. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof before the Municipal Court of the City of Minneapolis, be punished by a fine not exceeding One Hundred Dollars, or upon default in the payment of such fine, by imprisonment not exceeding ninety days. The continued violation of any provision of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provision hereof shall continue.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed July 26th, 1912.

J. D. WILLIAMS,
Vice President of the Council
and President pro tem.

Approved July 30th, 1912.

J. C. HAYNES,
Mayor.

Attest:
HENRY N. KNOTT,
City Clerk.

AN ORDINANCE

Authorizing the Erection and Maintenance of Permanent Awnings in Certain Localities in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. That it shall be lawful to erect upon the streets hereinafter described permanent awnings, which said awnings shall be erected under the supervision of the Building Inspector of the City of Minneapolis.

Section 2. No part of said awnings shall be less than ten feet above the sidewalk, and if said awnings are supported by posts, the said posts shall be either steel or iron and shall be placed twenty inches from the curb line. The said awnings shall be constructed of such material as shall conform to the ordinances and regulations of the City of Minneapolis for the construction of buildings in the territory affected by this ordinance.

Section 3. Before any such awning shall be erected, the person desiring to erect the same shall present a written application to the Building Inspector of the City of Minneapolis for a permit to erect said awning; the said application shall be accompanied by the plans and specifications for the said awning, and if said plans and specifications conform to the requirements of this ordinance and of other ordinances relating to the construction of buildings in the City of Minneapolis, then a permit shall be issued by the Building Inspector for the erection thereof.

Section 4. Any permanent awnings heretofore erected and now being maintained in the territory hereinafter mentioned under a permit heretofore granted by this Council may be maintained in their present condition and are hereby legalized.

Section 5. The streets upon which the awnings herein mentioned may be erected by authority of this

ordinance are described as follows, to-wit: Seventh street north, between First avenue north and Fourth avenue north; Sixth street north between First avenue north and Fourth avenue north; Fifth street north, between First avenue north and Fourth avenue north; Fourth street north, between First avenue north and Fourth avenue north; and Third street north, between First avenue north and Fourth avenue north; the northerly side of First avenue north, between Seventh street and Washington avenue; Second avenue north, between Seventh street and Washington avenue; Third avenue north, between Seventh street and Second street.

Section 6. All existing ordinances or parts of ordinances inconsistent herewith are hereby repealed.

Section 7. This ordinance shall take effect and be in force from and after its publication.

Passed April 30th, 1909.

JOHN H. VAN NEST,
President of the Council.

Approved May 5th, 1909.

Attest:
HENRY N. KNOTT,
City Clerk.

J. C. HAYNES,
Mayor.

AN ORDINANCE

Requiring the Installation of Safety Devices on the Exterior of Windows Which Will Permit Persons Cleaning the Windows on the Outside Thereof to do so Without Danger of Falling.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. The owner or agent of every business building in the city shall equip each and every window in any such building above the second story thereof with a suitable device or devices which will permit the cleaning of the exterior of each and every window in such building above the second story without danger to the person cleaning such windows, and such devices shall be of such pattern and construction as will reasonably and safely answer the purposes for which they are intended; provided, however, that if windows are of such construction that they may be easily cleaned from the inside they need not be equipped with such devices.

Section 2. Any person who shall violate any provision of this ordinance shall be subject, upon conviction thereof, to a fine of not less than Five Doll

($5.00) nor more than One Hundred Dollars ($100.00) for every offense, or, upon failure to pay such fine, to imprisonment not exceeding ninety (90) days.

Section 3. This ordinance shall take effect and be in force from and after its publication.

Passed March 12, 1915.

PLATT B. WALKER,
President of the Council.

Approved March 17, 1915.

Attest:
HENRY N. KNOTT,
City Clerk.

W. G. NYE,
Mayor.

AN ORDINANCE

To Regulate the Keeping and Storage of Moving Picture Films in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. By the term "moving picture film" as used in this ordinance is meant any film adapted and used to project upon a screen or other surface moving pictorial representations of any character.

Section 2. No person, co-partnership or corporation shall have in their possession or under their control in any one place in the City of Minneapolis any moving picture films in quantities of ten and upwards, except the same be kept in separate metallic boxes in a fireproof brick or concrete vault of not less than 8 inches in thickness. Said vault shall not exceed 1,000 cubic feet internal contents and be well ventilated by ventilation pipe or opening to the outside air, which pipe or opening shall be at least equal in area to a 12-inch pipe, to be arranged and installed subject to the approval of the Fire Marshal. Said fireproof vault shall have only one door or entrance, shall contain only fireproof shelves and furniture and shall be constructed and maintained only on the top floor of the building it occupies, unless the entire building is of fireproof construction. No moving picture film shall be kept or stored in any building occupied or used for lodging or housekeeping purposes. The part of the building used for storage of films shall be lighted by electricity. All electric wiring shall be inclosed in pipe conduits approved by the Inspector of Buildings. The lamps shall be fitted with keyless sockets and double vapor-proof globes. All switches must be outside of the room or vault where the films are stored or handled. All that portion of the building so used for storage and han-

dling of films and the space occupied by the vaults as hereinbefore provided shall be equipped throughout with approved automatic sprinkler system. No smoke-ing shall be allowed in or about the building or vaults in which films are stored. Clippings from films and waste paper shall be kept in self-closing metallic cans. Provided, however, that any vault of fireproof construction in the City of Minneapolis constructed prior to July 1, 1915, in accordance with the provisions and requirements of the city ordinances, may be used for the purposes of keeping and storing moving picture films, notwithstanding any provisions of this ordinance relating to the size or material of which such vault shall be constructed.

Section 3. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof, be punished by a fine of not to exceed One Hundred Dollars ($100) or by imprisonment until such fine is paid, not exceeding ninety (90) days.

Section 4. The ordinance entitled "An Ordinance to Regulate the Keeping and Storage of Moving Picture Films in the City of Minneapolis", approved April 3, 1915, is hereby repealed.

Section 5. This ordinance shall take effect and be in force from and after its publication.

Passed August 20, 1915.

PLATT B. WALKER,
President of the Council.

Approved August 25, 1915.

Attest:
HENRY N. KNOTT,
City Clerk.

W. G. NYE,
Mayor.

AN ORDINANCE.

Regulating the Business of Dry Cleaning in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. On or after the first day of January, A. D. 1915, it shall be unlawful for any person, firm or corporation to engage in or carry on within the City of Minneapolis the business of dry cleaning in which gasoline, naphtha, benzine or other volatile oils are used to clean or renovate any clothing, articles of wearing apparel or fabrics of any kind, without first obtaining a license, as hereinafter provided, for each dry cleaning establishment proposed to be conducted by such person, firm or corporation.

Every person, firm or corporation keeping or using more than two (2) quarts of gasoline, naphtha, benzine or other volatile oils for the purposes above mentioned, for profit or reward, shall be held and is hereby declared and defined to be a dry cleaner.

Section 2. Any person, firm or corporation desiring a license under this ordinance shall file with the City Clerk of said city an application in writing, signed by said applicant, containing the name of applicant, if an individual, the names of all the copartners, if a copartnership, and if a corporation, the name of the principal officers of such corporation, together with a brief description of the place or location at which such business is to be conducted. A separate application shall be made and filed for each dry cleaning establishment to be carried on or conducted by such applicant. Every such application shall be approved by the Inspector of Buildings and Fire Marshal of the said city before a license shall be authorized pursuant thereto. The said clerk shall refer said application to the City Council of the said city at its first meeting thereafter, and the city Council at such meeting or some subsequent meeting, shall pass upon such application.

Section 3. Whenever the applicant for such licenses shall present to the Comptroller of the said city a copy of the resolution of said Council authorizing the issuance of a license to him, certified by the City Clerk of said city, together with a receipt of the Treasurer of said city for the license fee hereinafter provided for, said applicant shall be entitled to a license to engage in and conduct, within said city, the business of dry cleaning in which gasoline, naphtha, benzine or other volatile oils are used to clean or renovate any clothing, articles of wearing apparel or fabrics of any kind, at the place designated in said license, for the period therein stated.

Such license shall be posted in a conspicuous place in the room where the dry cleaning is done.

Section 4. The license fee for engaging in or carrying on the business of dry cleaning is hereby fixed at Fifteen Dollars ($15) per annum. Every such license shall expire on the 31st day of December after its issuance; provided, however, that if less than six months of the annual license period shall have expired at the time of the issuing of such license, the full license fee shall be charged therefor. If more than six months of the annual license period shall have expired one-half of the full license fee shall be charged.

Section 5. Every building used or intended to be used for the purpose of conducting or carrying on the business of dry cleaning, as defined in this ordinance, shall be constructed and equipped according to the following specifications:

Every such building shall be built of brick, stone or concrete, with no basement, and shall not exceed two stories in height; provided, however, that the use of any building not exceeding three stories in height, or one which is completely lined inside and out in every portion thereof with corrugated iron in which dry cleaning business was carried on prior to the passage of this ordinance, may be continued if such building complies in all other respects with the provisions of this ordinance. The first floor of such building shall be higher than the surface of the ground surrounding such building and shall be so laid that there shall be no space underneath the same. The floor or floors and roof shall be of fireproof construction. There shall be no openings through the floors, excepting in two-story buildings in which a stairway leading from the second floor to the first floor may be permitted, if properly enclosed with walls of noncombustible material. Such stairways shall lead to the outside of the building without any doors or openings leading into the dry cleaning room. Every such building shall be detached from all other buildings, or separated from all other buildings by a fire wall with no openings to the adjoining buildings thereto, and shall not be occupied for any purpose other than the conduct of a dry cleaning and dry room or dyeing plant. The walls of such building, if built of brick, stone or concrete, shall not be less than twelve (12) inches thick and all such buildings shall have vent holes at the floor line, not less than sixteen (16) square inches in area, not more than six (6) feet apart, measured from center to center, which vent holes shall be protected by screens of thirty (30) mesh brass wire on the inside of such walls, and by iron bars or by screen of large mesh on the outside of such walls. Such buildings shall be further ventilated by means of an exhaust fan or fans of sufficient capacity to change the air in the building every three minutes, and shall be kept in operation at all times during the use of such building whenever the machinery is operated by steam or electric power. Such exhaust fans shall be located in an air conduit whose inlet openings shall be at or near the floor level in the wall farthest away from any other buildings or structures, and the discharge end of such conduit

shall be carried over the roof of such building. All doors in any such building shall be constructed of non-combustible materials and shall open outward. All window openings of such buildings shall be protected by wire glass with metal sash and frame.

Every such building two stories high shall be provided with two stairways leading from the second to the first floor, at least one of which must be placed on the outside, constructed of iron or steel.

Every such dry cleaning plant shall be equipped with a high pressure boiler of sufficient capacity to admit of flooding the dry cleaning and drying rooms with steam in case of fire, carrying a sufficient amount of steam during work hours, provided, however, that every such dry cleaning plant, constructed and maintained prior to the passage of this ordinance, may, in place of such high pressure boiler, be equipped with such adequate and practical fire extinguishing system as may be approved by the Fire Marshal. Each room of such building shall be equipped with a line of one and one-fourth (1¼) inch pipe connected with and one and one-fourth (1¼) inch supply line leading from such high pressure boiler and having down spouts of at least two (2) inches in length and not more than ten (10) feet apart distributed over washers and extractors; also a line of one and one-fourth (1¼) inch gas pipe going around inside of said building five (5) feet from floor, with one-half (½) inch openings not more than eight (8) feet apart and having out spouts not less than two (2) inches in length. The valves operating such lines of pipe shall in every case be placed outside of such building. Whenever steam power shall be used for the operation of any machinery contained in any such dry cleaning establishment, the boiler generating such power shall be located in a separate building and so situated that the line of travel for gases between the boiler and nearest opening into the cleaning or drying room shall be not less than ten (10) feet, and whenever electrical power is used the electric motor furnishing such power shall be similarly located; provided, however, that such boiler or electric motor may be located in the same building where such building was used for dry cleaning purposes prior to the passage of this ordinance, if such boiler or electric motor is separated from the dry cleaning or drying room by fire walls at least twelve (12) inches thick, having no openings into such dry cleaning or drying room, except such openings as may be required for shafts in operating the machinery contained therein; and such openings shall

be protected by some vapor-tight appliance of a permanent character.

Every such building shall be lighted by incandescent electric lamps having keyless sockets, protected by vapor-tight outer globes, and by a basket screen of heavy wire around said outer globes, and controlled by outside switches. No open light or flame of any kind whatsoever shall be allowed or used therein.

Every such establishment shall be provided with a tank not less than four (4) feet long, two (2) feet wide and three (3) feet deep, which shall be placed near the entrance of the dry cleaning room and shall be kept filled with water. Every such establishment shall be provided with not less than two (2) large, heavy, wool blankets hung close to the tank, which blankets may be used in case of fire.

Section 6. Tanks for the storage of any one or more of the oils or fluids mentioned in Section 1 of this ordinance must be placed outside of the buildings used for such dry cleaning and must comply with the ordinances of the City of Minneapolis relating to the storage of oils. No such tank shall be built underneath any such building. Pumps or devices for the removal of the contents of such tanks which are operated by hand power, and which have been approved by the Fire Marshal of the City of Minneapolis, may be placed inside any such building, provided the pipe through which such volatile liquid is pumped shall empty directly into the washer in which it is used. All gasoline used in any such building shall be conveyed to and from the same through closed metal piping; no open troughs shall be permitted. There shall be no piping or connection whereby any of the oils or fluids mentioned in this ordinance may flow from the cleaning room into any public or private sewer, catch basin or pit.

Section 7. It shall be unlawful for any person, firm or corporation to carry on or conduct the actual work of dry cleaning, as herein defined, in any tenement house or in any building, any portion of which is used or intended to be used as sleeping apartment or dwelling place. No person shall be permitted to sleep in any dry cleaning or drying room.

Section 8. It shall be the duty of the Fire Marshal to inspect each dry cleaning establishment at least once every six (6) months, and report to the City Council any failure to comply with the provisions of this ordinance.

Section 9. The Mayor or the City Council of the City of Minneapolis shall have power to revoke any license issued hereunder for any violation of the provisions of this ordinance.

Section 10. The continued violation of any provisions of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provision hereof shall be continued.

Section 11. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof, be punished by a fine of not more than One Hundred Dollars ($100) or by imprisonment for a period of not more than ninety (90) days.

Section 12. This ordinance shall take effect and be in force from and after the first day of January, 1915.

Passed May 29th, 1914.

KARL DE LAITTRE,
President of the Council.

Approved June 4th, 1914.

Attest:
HENRY N. KNOTT,
City Clerk.

W. G. NYE,
Mayor.

AN ORDINANCE

Relating to and Regulating the Erection, Maintenance and Use of Billboards in the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. No person, firm or corporation shall, in the City of Minneapolis, erect or reconstruct any billboard without first securing a permit so to do from the Inspector of Buildings, in accordance with the provisions of this ordinance.

The term billboard shall, for the purpose of this ordinance include all structures which are erected, maintained or used for the public display of posters, painted signs or reading matter, excepting such as are attached to the roofs or walls of buildings and excepting also such as are less than forty (40) square feet in area.

No single billboard shall exceed twelve (12) feet from the lower edge to the upper edge, and an average open space at least thirty (30) inches in height shall be kept and maintained between the bottom edge of any such billboard and the level of the ground. No

billboard shall be placed at a less distance than three (3) feet from any building, provided, however, that in granting a permit for erecting a billboard, the Building Inspector and the Fire Marshal, at their discretion, may or may not require an open space of not to exceed three (3) feet to be left between said billboard and an adjoining building and wherever any billboard is erected on a corner lot within the "Fire Limits" of the City of Minneapolis, or any corner within the city facing on a street on which there is a car line or across which a railroad track runs, if said track is within fifty (50) feet of said corner lot, such billboard shall be set back from the corner of the street at least twenty-five (25) feet.

Each and every person, firm or corporation to whom a permit is issued for the erection of a billboard shall, during such time as such billboard is maintained, keep it in good repair, and in a safe and stable condition.

Section 2. Every person, firm or corporation to whom a permit for the erection of a billboard is granted by the Inspector of Buildings shall paint his or their name in plain sight at the top of such billboard, together with the number of the permit so issued, and preliminary to the granting of such permit by the Inspector of Buildings, shall furnish to said Inspector specifications giving the proposed location, size and manner of construction of such billboard.

Section 3. It shall be unlawful to post or display on any billboard or advertising sign any indecent, immoral or lascivious picture or design such as would exercise an immoral or improper influence on the minds of children and youth.

Section 4. Every person, firm or corporation erecting any billboard within the City of Minneapolis shall forthwith take away and remove from the lot on which it is erected any and all debris, such as waste bills, posters or other rubbish of any nature.

Section 5. Whenever any billboard is found to be in an unsafe condition by the Inspector of Buildings, he shall notify the person, firm or corporation maintaining such billboard to take down or repair the same.

Section 6. The continued violation of any provision of this ordinance shall be and constitute a separate offense, under this ordinance for each and every day such violation shall continue.

Section 7. Each and every section of this ordinance shall be considered as having been independently

passed by itself, and shall in no way be considered as an inducement to the passage of any other section.

Section 8. Any person who shall violate any provision of this ordinance shall be subject, upon conviction thereof, to a fine of not less than Twenty-five Dollars ($25.00) nor more than One Hundred Dollars ($100.00) for every offense, or upon failure to pay such fine, to imprisonment not exceeding ninety (90) days.

Section 9. All ordinances, or parts of ordinances, inconsistent with the provisions of this ordinance are hereby repealed.

Section 10. This ordinance shall take effect and be in force from and after its publication.

Passed November 27th, 1914.

A. P. ORTQUIST,
Vice President of the Council and President Pro Tem.

Approved December 1st, 1914.

Attest:
HENRY N. KNOTT,
City Clerk.

W. G. NYE,
Mayor.

AN ORDINANCE

To Regulate the Construction and Erection of Buildings within the City of Minneapolis in which Concrete, Reinforced Concrete, or a Combination of Reinforced Concrete and Tile or Other Material, is Used in the Construction Thereof, and to Provide for the Adequate Superintendence and Inspection of Such Construction.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. Every person, co-partnership or corporation erecting any building or structure, within the City of Minneapolis, wherein concrete or reinforced concrete, or a combination of reinforced concrete and tile or other material, is used for the structural members, shall employ, and keep constantly on the work during the construction of any such building or structure, or shall cause to be so employed and kept by the architect or designer of such building or structure, a competent and duly qualified superintendent or inspector, whenever in the judgment of the Inspector of Buildings the importance and magnitude of such building or structure and public safety require the services of such superintendent or inspector.

Such superintendent or inspector, before engaging in the superintendence or inspection of the construc-

tion of any such building or structure, shall obtain a permit therefor from the Inspector of Buildings, and before any such permit shall be issued to the applicant therefor, such applicant shall be required to pass a written examination before the Inspector of Buildings as to his ability to correctly read architectural plans and drawings, and as to his knowledge and experience in respect to the proper means, mode and manner of making such construction of concrete, reinforced concrete and combination of reinforced concrete and tile or other materials. Said Inspector of Buildings shall preserve and keep on file all examination papers, and may revoke any permit issued under the provisions of this ordinance if the person to whom said permit is issued fails to perform his duties as required by this ordinance.

Section 2. Each and every superintendent or inspector employed as such as herein provided, shall carefully inspect all materials entering into, or in any manner used in the construction of every building or structure upon which he is employed as superintendent or inspector. He shall submit to the office of the Inspector of Buildings samples of the materials entering into the construction of the work upon which he is engaged as such superintendent or inspector, whenever required by the Inspector of Buildings. He shall report in writing to the Inspector of Buildings any and all deviations from, and changes in, the plans and specifications as approved by said Inspector of Buildings, and all work not performed as required by such plans and specifications. He shall also report any and all attempts made by the contractor or any workman employed upon any such building to remove the forms and supports of the concrete work before the concrete shall have properly and sufficiently hardened or set, and shall promptly report to said Inspector of Buildings each and every defect in the construction that comes to his notice. He shall also notify said Inspector of Buildings of each and every attempt on the part of the contractor or workmen engaged on said construction to cover, patch or repair, during the progress of the work or after its completion, any defect in the construction before such defect shall have been examined by a representative of the Department of Buildings and the manner in which the same shall be covered, patched or repaired duly approved by said representative of the Department of Buildings.

Said superintendent or inspector shall not, while employed as such, perform any manual labor on the work

on which he is so employed, for the contractor or other person or persons interested in said building or structure.

Section 3. Each and every person, copartnership or corporation engaged in the erection or construction of any building or structure in which concrete, reinforced concrete, or reinforced concrete in combination with other materials, is used, within the City of Minneapolis, who shall violate any provision of this ordinance, or who shall fail to provide and keep permanently on the building or structure during its construction, when ordered so to do by the Inspector of Buildings, such duly qualified and competent superintendent or inspector as herein provided, and each and every such superintendent or inspector to whom a permit has been granted as hereinbefore provided who shall violate any provision of this ordinance, or fail to perform any of his duties as set forth in this ordinance, shall, upon conviction thereof before the Municipal Court, be subject to a fine of not less than Ten Dollars ($10.00) nor more than One Hundred Dollars ($100.00), or, upon failure to pay such fine, to imprisonment not exceeding ninety (90) days.

The continued violation of any of the provisions of this ordinance shall be and constitute a separate offense for each and every day such violation shall continue.

Section 4. This ordinance shall take effect and be in force from and after its publication.

Passed November 8th, 1907.

JOHN H. VAN NEST,
Vice President of the Council.

Approved November 14th, 1907.

Attest: J. C. HAYNES,
L. A. LYDIARD, Mayor.
City Clerk.

Theatre Ordinance

AN ORDINANCE

To Regulate the Erection, Construction, Alteration and Maintenance, within the City of Minneapolis, of Buildings Used or Intended to be Used for Theaters, Opera Houses, Auditoriums, and Halls, and all Buildings Used for Public Assemblages of any Kind and for Whatever Purpose, and to Provide for the Proper Equipment with Exits and Stationary Fire Apparatus of all Buildings Now or Hereafter Built within the said City for Such Purposes; Also to Provide for Proper Exits and

Fire Protection in Department Stores, Hotels, Flat Buildings, Lodging Houses and Factories, Now or Hereafter Erected within the City of Minneapolis.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. Every theater, opera house, auditorium or other building intended to be used for theatrical or operatic purposes, or for public entertainment of any kind, where stage scenery and apparatus are employed, hereafter erected or altered, to be used for the purposes above named, shall comply with the requirements of this ordinance.

MUST COMPLY WITH ORDINANCE, WHEN.

Section 2. No building which at the time of the passage of this ordinance is not in actual use for such purposes, and no building hereafter erected or altered to be used for such purposes, shall be used for any of the purposes named in Section 1 of this ordinance unless such building complies with the requirements of this ordinance.

INSPECTOR OF BUILDINGS AND CHIEF ENGINEER OF FIRE DEPARTMENT MUST APPROVE.

Section 3. No building hereafter erected or altered for any of the purposes named in Section 1 of this ordinance shall be opened to the public until the same shall have been approved by the Inspector of Buildings, nor then until the fire apparatus hereinafter provided for in such buildings shall have been approved by the Chief Engineer of the Fire Department. And the Mayor of the City of Minneapolis shall, if necessary, close for public entertainment any such building and keep the same closed to the public until the said Inspector of Buildings shall have signed a certificate stating that the provisions of this ordinance have been complied with in such building, and until the said Chief Engineer of the Fire Department shall have also signed a certificate stating that the fire apparatus in said building has been approved by him.

DEFINITIONS.

THEATER.

Section 4. A theater shall be taken to mean a house used or intended for the presentation of dramatic performances; a playhouse, comprehending the stage, the *pit, the boxes,* balconies, galleries and orchestra.

OPERA HOUSE.

An opera house shall be taken to mean a house or theater used or intended for the presentation of operas.

AUDITORIUM.

An auditorium shall be taken to mean that part of any building used or intended for the seating of an audience.

CHURCH.

A church shall be taken to mean a building set apart for religious worship.

CONCERT AND PUBLIC HALLS.

Concert halls or public halls shall be taken to mean and include all audience rooms where movable stage scenery and apparatus are not employed.

MAYOR TO CLOSE, WHEN.

Section 5. In all cases under the provisions of this ordinance, whenever the Inspector of Buildings may deem it necessary for the public safety to limit the number of persons who shall occupy the interior of any building as aforesaid, and the owner or owners, lessee, or manager of such building neglects or refuses to comply with any order or requirement of the Inspector of Buildings in relation thereto, the Mayor of said City of Minneapolis, upon application to him by said Inspector of Buildings, may close said building for public entertainment, or perform such other acts in the premises as shall prevent the improper use or occupancy of the same and the liability of accidents to the public.

And in all other cases of impending danger to any building or its occupants such as shall require immediate action under the provisions of this ordinance, the Inspector of Buildings shall, as above stated, apply to the Mayor of the said city, who is hereby authorized to close for public entertainment said premises until the Inspector of Buildings shall permit said building to be opened, upon compliance with the orders and requirements of the said Inspector of Buildings in relation thereto.

FRONTAGE, EMERGENCY EXITS, ETC.

Section 6. Every building hereafter erected or altered to be used for theatrical or operatic purposes, or for auditoriums for public entertainments of any kind,

or other building where stage scenery and apparatus are employed, excepting those already erected and at the time of the passage of this ordinance used for the purposes above named, shall have at least one front on the public highway or street, and in such there shall be such means of exit as hereinafter provided for.

No portion of any building hereafter erected or altered to be used for the purposes above designated shall be occupied as a hotel, boarding house, lodging house, factory or workshop, or for storage purposes, or for any business classed by the National Board of Fire Underwriters as specially hazardous, and in all cases where stores, offices or other rooms are built in connection with any such building the distance intervening between the main floor of the auditorium and the sidewalk line shall not exceed sixty (60) feet, and there shall be constructed walls of fireproof materials separating such stores, offices or other rooms from said auditorium, and the walls, floors, partitions and ceilings of any such stores, offices or other rooms shall be constructed of fireproof materials throughout, and there shall not be provided any doors through said firewalls, connecting with the said auditorium, or with the corridor or passageway from the street to the said auditorium.

And provided, further, that there shall be reserved for use and service as emergency exits, in addition to the said exit in front of the building, an open space or alley on each side of the building, where said building is not located on a corner lot, and on the side not bordering on the street where said building is located on a corner lot, said open space or spaces shall be open to the sky and shall begin on a line with or near the proscenium wall of the stage and shall extend at least throughout the length of the auditorium proper, to a line with or near the wall separating the same from the lobby, foyer or vestibule. In all cases where the open space or spaces above provided for do not extend to a street or public alley, a separate and distinct corridor shall be built from each such open space to a street or public alley, with continuous walls, floors and ceilings of brick or other fireproof materials, extending the entire length of said corridor.

The width of such open space or spaces and of such corridors shall not be less than seven (7) feet in the clear in any part thereof, where the seating capacity of the building is more than six hundred (600) people and less than one thousand (1,000) people; where the seating capacity of the building is more than one thousand (1,000) people and less than two thousand (2,000)

people, the said open space or spaces shall not be less than eight (8) feet; where the seating capacity of the building is more than two thousand (2,000) people, one (1) foot shall be added to the width of each open space or corridor for every five hundred (500) people or part thereof in excess of two thousand. Provided, however, that the open space or spaces above provided for shall not be required for the above named buildings if their total seating capacity is less than six hundred (600) people and if there are provided exits to the street equal in their total width of opening to at least twenty-two (22) inches for every one hundred (100) people or part thereof that the buildings will seat, and said buildings shall be provided with such fire escapes as the Inspector of Buildings may deem necessary for the public safety. Provided further, that any such theater building, without a gallery and seating not to exceed seven hundred (700) persons on the ground floor, may be erected and maintained without said open spaces on the sides, provided there are at least three (3) exit doors in the front of such theater, each not less than five (5) feet in width, and at least two (2) emergency exits in the rear of such theater, each not less than five (5) feet in width, and also providing same is satisfactory to the Inspector of Buildings.

If corridors are constructed as above specified, they shall not be less than twelve (12) feet in height in the clear, and any structure erected over or above any such corridor shall be constructed of fireproof materials.

If any gates or doors are used to close such corridors or open spaces from the street, they shall open outward and shall fit into pockets, all so arranged that the openings through said gates or doors shall equal in width the corridors or open spaces leading thereto. Such gates or doors shall not be kept closed by locks, but shall be fastened on the inside with simple, movable bolts, and during each and every performance or entertainment in said building said gates or doors shall be kept open.

Said open spaces or corridors shall not be used for storage or for any purpose whatsoever except for exits, and must be kept free and clear of all obstructions during any performance or entertainment within the building.

To overcome any difference of level in and between the sidewalk and said open spaces or corridors, gradients shall be employed of not over one (1) foot in twelve (12) feet, with no perpendicular risals except

one (1) step, if necessary, to the sidewalk level. This provision in regard to gradients shall also apply to inner courts, corridors, lobbies, passages and aisles, wherever the use of gradients is practicable.

EXTERIOR WALLS.

Section 7. Exterior walls of all buildings used or intended to be used as theaters, opera houses, or auditoriums, or other buildings designed for public entertainment where stage scenery and apparatus are employed, shall be built of fireproof material, and shall conform as to thickness and strength to the ordinances of the City of Minneapolis.

INTERIOR WALLS.

Section 8. All interior walls and partitions shall be of fireproof materials and their construction shall be subject to the approval of the Inspector of Buildings.

PROSCENIUM FIRE-WALL AND DOORS.

Section 9. A brick fire-wall not less than sixteen (16) inches in thickness, and thicker, where required by the Inspector of Buildings, shall separate the auditorium from the stage, and shall extend at least four (4) feet above the stage roof or the auditorium roof if that be higher at that point. Said fire-wall shall be coped with stone or with Portland cement.

Above the proscenium opening, there shall be placed an iron or steel girder, thoroughly protected with fireproof materials; said girder to be of sufficient strength and to have proper bearings to safely support the load that may be imposed thereon.

Should there be constructed an orchestra above the proscenium opening, the said orchestra shall be placed on the auditorium side of the proscenium fire-wall, and shall be entered only from the auditorium side of said fire-wall.

There shall not be any opening through the said fire-wall, except the curtain opening and not to exceed four (4) others, two of which may be below the stage, and two on a level with the stage, one on either side of the curtain opening. Neither of the four (4) openings above provided for shall exceed twenty-one (21) square feet in area, and all such openings shall be provided with fireproof doors of such material and construction, and installed in such a manner, as is approved by the National Board of Fire Underwriters.

PROSCENIUM FRAME.

Section 10. No wood or other inflammable materials shall enter into the construction of the frame around the proscenium opening, and such frame shall be firmly secured to the proscenium fire-wall.

PROSCENIUM FIREPROOF CURTAIN.

Section 11. The proscenium opening shall be provided with a fireproof curtain of pure asbestos, or of steel, or of a combination of steel and asbestos.

If the curtain is made of pure asbestos, it shall weigh at least two and three-fourths (2 3/4) pounds per square yard. Such curtain shall be at least thirty-six (36) inches wider than the proscenium opening, overlapping the proscenium wall at least eighteen (18) inches at each side of such opening, shall be fastened at both top and bottom to an iron pipe at least one and three-fourths (1 3/4) inches in diameter, or between iron straps of sufficient size, and shall be supported and operated by wire ropes passing over iron pulleys.

Whichever kind of curtain is used, it shall be so arranged that it can be easily operated from the fly-galleries and from either side of the stage, and the construction and installation of such curtain shall be subject to the approval of the Inspector of Buildings and of the Chief Engineer of the Fire Department.

The fire-proof curtain shall be raised at the commencement of each performance or entertainment and lowered at the close of the same. The foot-lights shall be placed at a distance of at least three (3) feet from said curtain at their nearest point, and the foot-light trough shall be constructed subject to the approval of the Inspector of Buildings.

SKYLIGHTS OR VENTILATING SHAFTS OVER STAGE.

Section 12. Skylights or a ventilating shaft, or shafts, of an area, or combined area equal to at least one-tenth (1-10) of the stage area shall be installed in the roof above the stage.

Such skylights or shafts shall be installed and fitted up in such a manner that in case of fire in rear of proscenium wall the cutting or burning of a hempen cord would cause such skylights or the dampers to such shafts to open instantly.

The method of installing and operating said skylights or ventilating shafts shall be subject to the approval of the Inspector of Buildings.

STAGE FLOOR—HOW CONSTRUCTED.

Section 13. All that portion of the stage floor not directly back of the curtain opening shall be of fire-proof construction, a finish color of wood being allowable on the top of said fire-proof construction, and that portion of the stage floor directly back of the curtain opening, if not of fire-proof construction, shall have a wood floor at least three and one-half (3½) inches in thickness.

FLY-GALLERIES AND RIGGING-LOFT.

Section 14. All structural work of the fly-galleries and rigging-loft shall be of iron or steel, and all floors of said galleries shall be of fireproof materials throughout.

STAIRS TO FLY-GALLERIES AND BASEMENT.

Section 15. All stairs to fly-galleries, and to the basement under the stage, shall be of iron or other fire-proof material, and no such stairs shall be less than two (2) feet and six (6) inches in width.

DRESSING ROOMS.

Section 16. The walls, floors, partitions and ceilings of all dressing rooms shall be of fire-proof construction, and such dressing rooms shall not communicate directly with the stage except through doors of fire-proof material, and shall also be provided with exits as required by the Inspector of Buildings.

There shall be provided, in all cases, a fire-proof door three (3) feet in width, opening outward from the basement under the stage onto an outside stairway of fire-proof construction leading to the open space hereinbefore provided for, or to a landing between the building and the sidewalk if such stairway be on the street side of the theatre building located on a corner lot or lots, and the area of each such stairway shall be protected above the ground with a strong iron railing at least three (3) feet in height and with a strong movable bar extending across the approach to stairway.

AUDITORIUM—HEIGHT OF FLOOR ABOVE STREET.

Section 17. The ground floor of the auditorium, where it connects with the lobby or foyer, shall not be at a greater height above or below the street level than a gradient from the street vestibule of one (1) foot in ten (10); said street vestibule to be not more than one (1) step above the grade of sidewalk at the

central entrance point, and in no case to be below the grade of said sidewalk.

CONSTRUCTION FIRE-PROOF, WHERE.

Section 18. All materials used for floors, balconies, galleries, roofs, ceilings and partitions in such buildings, unless herein otherwise provided, shall be of iron or steel and fire-proof materials, not excluding the use of wood boards and the necessary sleepers to which the same may be fastened, but by such sleepers is not meant timbers of support. Nothing herein contained shall exclude the use of wooden wainscoting to a height of not to exceed six (6) feet.

The front of each balcony or gallery shall be constructed of fire-proof material throughout, except that the coping or capping may be of wood.

SEATS AND PLATFORMS.

Section 19. All seats in the auditorium, except those contained in the boxes or loges and galleries, shall not be less than thirty-two (32) inches from back to back, measured in a horizontal direction, and shall be firmly secured to the floor. No seat in the auditorium shall have more than six (6) seats intervening between it and the adjacent aisle, and there shall be an aisle at each end of every row of seats, containing more than six (6) seats.

All platforms in balconies, formed to receive seats, shall be not more than twenty-one (21) inches in height of riser and not less than thirty-two (32) inches in width of platform. The ascent of seats in any gallery from front to rear shall not be at a greater angle than forty (40) degrees with the horizontal plane, and no platform formed to receive such seats shall be less than twenty-eight (28) inches in width. Such platforms may be of wood, placed on top of the fire-proof construction.

AISLES.

Section 20. All aisles on the respective floors in the auditorium having seats on both sides of the same, shall not be less than three (3) feet in width where they begin and shall increase in width toward the exits in the ratio of one and one-quarter (1¼) inches to every five (5) running feet. Aisles having seats on one side only shall not be less than two and one-half (2½) feet in width at their beginning and shall be increased in width the same as aisles having seats on both sides.

GRADIENTS.

Section 21. Gradients or inclined planes, shall be employed instead of steps to overcome any difference of level in or between aisles, passages or corridors, wherever it is practicable, in the opinion of the Inspector of Buildings, to use them.

MAIN EXITS, WHERE LOCATED, AND WIDTHS.

Section 22. The main exits from the auditorium shall be at the end of the building opposite the stage. The doors of all exits in any such building shall swing outward. No exits shall be less than five (5) feet in width, except as herein specially provided, and there shall be provided exits at least equal, in their aggregate width of opening, to the aggregate of the greatest width of those several aisles the discharge from which is taken care of by such exits.

There shall be separate and distinct exits, for the main floor, balconies and galleries, opening into a common lobby, or to the street, and the width of said lobby, and of the exits therefrom, shall at least equal the combined width of all stairways, corridors and passageways opening directly into such lobby.

STAGE EXITS.

Section 23. There shall be at least one (1) exit on each side of the stage, not less than four (4) feet in width, leading to the street or alley, or to the open spaces hereinbefore provided for.

EMERGENCY EXITS, STAIRWAYS AND CROSS-AISLES.

Section 24. There shall be provided at least two (2) emergency exits on each side of the main auditorium or ground floor, each at least five (5) feet in width. Such exits shall be between the boxes and the foyer and within plain sight of the audience in the main auditorium, and shall open into the open spaces hereinbefore provided for.

An emergency exit at least three (3) feet in width shall be provided on each side of each balcony and gallery. Each such exit shall open onto an outside balcony constructed of iron and at least three and one-half (3½) feet in width, and from each such balcony a separate and distinct iron stairway, at least three (3) feet in width, shall lead to the ground. Such stairway shall be constructed with a rise of not over eight and one-half (8½) inches to the step and wit

a tread not less than nine (9) inches in width. The said stairway shall not land on any public street or alley, but if one or more sides of the building borders on said street or alley, the building shall be set back the width of said stairway from the lot line. Such stairway shall be of ample strength and shall be provided with strong handrails, and shall be subject to the approval of the Inspector of Buildings.

The emergency exits to such stairways shall be as centrally located in their respective balconies and galleries as practicable, and there shall be provided a cross-aisle at least two and one-half (2½) feet in width extending across the full width of such gallery or balcony to such exits.

The outer side of the doors of all such exits shall be covered with fire-proof material.

If any balcony or gallery seats more than eight hundred (800) people, then there shall be constructed such additional cross-aisles, exits and stairways as the Inspector of Buildings may deem necessary.

STAIRWAYS.

Section 25. All stairways within the building shall be constructed of fire-proof materials, and shall, unless herein otherwise provided, be at least five (5) feet in width.

In no case shall the riser of any stair used by the public exceed seven (7) inches in height, nor shall any tread be of less width than ten and one-half (10½) inches, exclusive of the nosing.

No winding stairs shall be allowed in any stairway.

There shall be at least two (2) independent stairways with direct exterior outlets, provided for each balcony and gallery in the auditorium and they shall be located as far apart as practicable. In all cases, the width of such stairways and of the passageways leading thereto shall not be less than twenty (20) inches for each one hundred (100) people accommodated thereby.

STAIRWAY LANDINGS.

Section 26. At every point where a straight stairway turns directly on itself, a landing, the full width of both flights, and without any steps, shall be provided.

All stairways leading to any gallery above the balcony shall be enclosed between walls of masonry.

At every point where a stairway turns at an angle, a landing at least the full width of the stairway, shall be provided.

No stairway shall ascend to a greater height than eleven (11) feet without a landing, said landing to be level and not less than four (4) feet in length.

HAND-RAILS FOR STAIRWAYS.

Section 27. All enclosed stairways shall have, on both sides, strong hand-rails firmly secured to the wall and about three (3) inches distant therefrom, at a height of about three (3) feet above the stairs; but said hand-rails shall not be required on level platforms and landings where the length of such platforms or landings is greater than the width of the stairway or stairways with which they connect.

CORRIDORS, AISLES AND PASSAGEWAYS.

Section 28. No corridor, aisle or passageway shall be reduced in width at any place between its point of beginning and the exit to which it leads.

WORKSHOPS AND PROPERTY ROOMS, FIRE-PROOF.

Section 29. No workshop, paint shop, carpenter shop, general property or store-room shall be allowed above the auditorium or stage, or under the same. Said rooms and shops may be located at the rear or side of stage if they be separated from the stage by a fire-proof wall, and any opening between them and said stage shall be protected with a fire-proof door, or doors, such as approved by the National Board of Fire Underwriters.

HEATING PLANT.

Section 30. If a low pressure boiler is used in connection with the heating system, the plant may be installed in that part of the building separated by a fire-proof wall, or walls, from the auditorium, stage and corridors, but such heating plant shall in any case be installed in a fire-proof room, and such room shall not be located under the auditorium, stage or corridors.

If there is, in connection with the heating plant, a high-pressure boiler, then said heating plant shall be located in a building or room outside of the building within which such theater, opera house or auditorium is located, and, if adjacent to such theater, opera

house or auditorium building, the room containing such heating plant shall be of fire-proof construction, and any and all openings connecting such room with the theater, opera house or auditorium building shall be provided with fire-proof doors such as are approved by the National Board of Fire Underwriters.

No coil or radiator shall be placed in any aisle or passageway used by the public as an exit where it will form an obstruction.

All supply, return or exhaust pipes shall be properly encased and protected where passing through floors or near woodwork.

FIRE PRECAUTIONS, WHAT.

Section 31. Stand-pipes shall be provided, with hose and hose attachments, on each side of the building, and the number and location of such stand-pipes shall be determined by the Chief Engineer of the Fire Department.

The stage stand-pipes shall have outside connections equipped with couplings of the pattern used by the Minneapolis Fire Department.

The Chief Engineer of the Fire Department shall designate the size of all stand-pipes used, and the size of pipes for sprinkler-system, the number of axes and hooks (not less than four of each), the number of feet of hose necessary to be provided, the manner in which the sprinkler-system shall be installed, and the number of Babcock fire extinguishers necessary and where they shall be located.

All the hose in the building shall be tested at least once a year under the direction of the Chief Engineer of the Fire Department, and water shall be run through the hose at least once each month.

Any hose or other fire apparatus or appliances which may be found defective shall be condemned by the Chief Engineer of the Fire Department and by him ordered removed.

Every person, firm and corporation conducting, operating or maintaining any theater building in the City of Minneapolis having a seating capacity of more than three hundred and fifty (350) persons shall employ as a fire guard at such theater building two or more competent persons of the age of twenty-one (21) years or more to be approved by the Fire Marshal of said city. Such fire guards shall attend each performance or entertainment given in such theater building when the stage of such theater is used or occupied for

any other purpose than the exhibition of stationary or moving pictures, and shall perform their duties under the direction of the Fire Marshal. Such fire guards shall be in the building fifteen (15) minutes before the beginning of each performance or entertainment and shall see that all fire apparatus is in proper order, that all exit doors are unfastened and unobstructed, and that the aisles, corridors and fire-escapes are kept clear and free from all obstructions and they shall remain in the building until the audience has departed from it and shall then make a thorough inspection of every part of the building. They shall make a daily report relative to the fire apparatus, implements of safety, condition of exit doors, aisles, corridors and fire-escapes and forward said report to the Fire Marshal weekly, and shall see that the stage hands and other employes are given proper fire drill. Any persons employed as aforesaid as special stage firemen or fire guard may be assigned by their employers to duties other than those enumerated when the theater is not open to the public. At least one of such fire guards in each building shall during a performance or entertainment wear such a badge as the Fire Marshal shall prescribe, and may perform the duties of an usher during the performance or entertainment. Whenever any such fire guard shall, in the judgment of the Fire Marshal, prove to be incompetent or inefficient, or has neglected to perform the duties required of him by this ordinance, he shall be discharged by his employer when such discharge is requested or directed by the Fire Marshal.

Every person, firm and corporation conducting, operating or maintaining any theater building in the City of Minneapolis having a seating capacity of three hundred and fifty (350) persons or less shall employ as a fire guard at such theater building a competent person of the age of twenty-one (21) years or more to be approved by the Fire Marshal of said city. Such fire guard shall be in the building fifteen (15) minutes before the beginning of each performance or entertainment and shall see that all fire apparatus is in proper order, that all exit doors are unfastened and unobstructed, and that the aisles, corridors, and fire escapes are kept clear and free from all obstructions and he shall remain in the building until the audience has departed from it and shall then make a thorough inspection of every part of the building. Any person employed as aforesaid as fire guard may be assigned by his employer to duties other than those enumerate when the theater is not open to the public. Such fi

guard shall, during a performance or entertainment, wear such a badge as the Fire Marshal shall prescribe, and may perform the duties of an usher during the performance or entertainment. Whenever any such fire guard shall, in the judgment of the Fire Marshal, prove to be incompetent or inefficient, or has neglected to perform the duties required of him, he shall be discharged by his employer when such discharge is requested or directed by the Fire Marshal.

A sprinkling system shall be installed over the stage under the roof of any building hereafter erected, used for theatrical or operatic purposes, or for public entertainments of any kind where stage scenery and apparatus are employed, which said sprinkling system shall have outside connections equipped with couplings of the pattern used by the Minneapolis Fire Department, and shall be installed subject to the approval of the Chief Engineer of the Fire Department.

FIRE ALARM SYSTEM.

Section 32. In all buildings, now or hereafter erected, used for theatrical or operatic purposes or for public entertainments of any kind where stage scenery and apparatus are employed and having a seating capacity of six hundred (600) or over, there shall be installed a fire alarm system connected with the headquarters of the City Fire Alarm Telegraph, and the number and location of the boxes in such building and the manner of their installation shall be determined and approved by the Chief Engineer of the Fire Department. Provided, however, that in all such buildings, used as above specified, and in which the installation of a fire alarm system connected with the City Fire Alarm Telegraph is not required, there shall be installed in the main office of any such building a telephone.

LIGHTING SYSTEMS, HOW INSTALLED.

Section 33. Every portion of the building devoted to the use and accommodation of the public, and all outlets leading to the highway or street, shall be well and properly lighted during every performance or entertainment, and the same shall remain lighted until the entire audience shall have left the premises.

Nothing in the foregoing paragraph is intended to prohibit temporarily shutting off the lights in the auditorium during the production of any act or scene.

Gas mains supplying the building shall have separate and independent connections for the auditorium

and stage, and provision shall be made for shutting off the gas from the outside of the building.

There shall be a system of lighting for the auditorium, stairs, halls, corridors, passageways, lobbies and vestibules separate and independent from the general system of lighting for the auditorium, and such system shall be controlled only from the foyer or box-office, or both.

No gas or electric lights shall be inserted in any woodwork unless protected by fireproof materials.

All stage lights, if gas, shall have strong metal or wire guards or screens not less than ten (10) inches in diameter, so constructed that any material in contact therewith will be kept at a safe distance from the flame of such light, and all gas lights, wherever the Inspector of Buildings may deem necessary, shall be protected by similar guards or screens.

All electric lights and wiring shall be installed in accordance with the requirements of the ordinances of the City of Minneapolis relative thereto, and subject to the approval of the Inspector of Buildings.

EXITS SHOWN ON PROGRAM; RED LIGHTS, WHERE.

Section 34. Every exit shall have over the same, on the inside, the word "EXIT" in conspicuous letters not less than six (6) inches in height and with a distinguishing letter as "A", "B", etc., and over each such exit, on the inside, there shall be placed a red light which shall remain lighted until the audience shall have left the premises, and no other red light shall be allowed in the auditorium.

On every program shall be printed instructions to the audience as to the location of exits and designating which exit is best available from the different sections of the house.

AISLES KEPT CLEAR WHERE.

Section 35. The aisles, passageways and stairways of all buildings affected by the provisions of this ordinance, now or hereafter erected, shall be kept clear of camp-stools and chairs, and shall not be obstructed in any manner whatsoever.

No person or persons shall be allowed to stand in or occupy any of the aisles or passageways of any such building during any entertainment, service, exhibition, lecture, concert or public performance of any kind.

INSPECTOR OF BUILDINGS, POWER OF.

Section 36. The owner, agent, lessee or manager of any building affected by the provisions of this ordinance shall, unless herein otherwise provided, install and maintain such standpipes, fire apparatus and fire extinguishers, and shall so arrange the installation of gas and electric lights, and shall provide such exits and stairways, and shall make such other changes, as the Inspector of Buildings may deem necessary for the public safety.

Provided, however, that should the owner, agent, lessee or manager of any such building receive written notification from the Inspector of Buildings to provide stand-pipes, fire apparatus and fire extinguishers, or to arrange the installation of gas and electric lights, or to provide additional exits and stairways, or to make other changes, in excess of what he or they may deem necessary for the public safety, then such owner, agent, lessee or manager shall, within three (3) days after receiving such written notification from the Inspector of Buildings, file with the said Inspector of Buildings a written protest stating wherein the requirements of said written notifications are, in their opinion, unnecessary for the public safety; and the said Inspector of Buildings shall present such written protest to the City Council, at the first meeting thereafter held by that body, for investigation and final decision, and it shall require a majority vote of said City Council to sustain such protest. In case such final decision is not rendered at that or the next regular meeting of the said City Council held thereafter, then said written notification from the Inspector of Buildings shall stand as approved by said City Council.

WHAT BUILDINGS NOW ERECTED ARE AFFECTED BY CERTAIN OF THE FOREGOING SECTIONS.

Section 37. Of the foregoing sections of this ordinance, Sections 5, 11, 12, 31, 32, 33, 34, 35 and 36 shall apply to buildings already erected and now used for theatrical or operatic purposes, or for public entertainment of any kind, where stage scenery and apparatus are employed, except as herein otherwise specifically provided.

PICTURE MACHINE INSTALLATIONS, AND THE PREMISES ON WHICH THEY ARE OPERATED.

Section 37½ By the term "picture machine", as

used in this ordinance is meant any machine or device involving the use of a film, adapted and used to project upon a screen or other surface moving pictorial representations of any character, which the public are admitted to view for a fee, or otherwise.

No exhibition room in which a picture machine is installed shall be located above the ground floor in any non-fireproof building, except in theaters or halls now in use for such purposes, and then only in accordance with the provisions of this ordinance. No moving picture hall shall hereafter be fitted up in any building of frame construction of more than one-story in height, nor in any building having fireproof exterior walls with wooden floor construction, if such building exceeds three (3) stories in height.

Whenever picture machine exhibition rooms are hereafter fitted up in any building in which a heating plant is located, such heating plant shall be installed within a room surrounded on all sides by fireproof walls, and all doors opening into such room shall be fireproofed and provided with fireproof doors and door frames. Such doors shall close automatically. The ceiling of such heating plant room, if not absolutely fireproof, shall be covered on the under side with one-fourth (¼) inch asbestos lumber securely fastened to the joists, or tile and plaster may be used, all to be subject to the approval of the Inspector of Buildings.

No picture machine shall be installed, maintained or operated in any room that does not abut entirely upon the street, or upon an open space at least thirty (30) feet in width leading to a street.

In non-fireproof exhibition rooms directly abutting upon only one street, the booth enclosing the picture machine shall be placed at that end of the room which is farthest removed from the street.

Where such room abuts directly upon two streets, the machine may be placed at either end of the room if the exits to the streets at front and side of the building are arranged in a manner approved by the Inspector of Buildings.

Every such exhibition room shall have at least two (2) main exits opening upon the street, or streets, each of which exits shall be at least five (5) feet in width. There shall also be provided an additional exit, in the rear of the room, at least three and one-half (3½) feet in width, and in addition to said three and one-half (3½) foot rear exit door, there shall be provided an additional exit on one side or end of the room, at least three and one-half (3½) feet in width.

Provided, however, that in lieu of said rear and side doors, one five (5) foot door opening may be provided in the rear of said room.

Provided, further, that in all moving picture theaters now or hereafter installed, the door bolts shall be of a type that will easily release by the operation of a lever or bar.

In all moving picture theaters now or hereafter erected, gradients or inclined planes shall be employed, instead of steps, to overcome any difference in levels in or between aisles, passageways, corridors, and the landings outside of the buildings, wherever it is practicable in the opinion of the Inspector of Buildings to use them.

No ragged or torn carpet or covering shall be maintained on any floor of a moving picture theater.

There shall be installed in every moving picture theater at least one (and more when required by the Inspector of Buildings) three (3) gallon fire extinguisher of the type provided for in Section 142 of this ordinance.

Wherever moving picture theatres are heated with stoves of any kind, such stoves shall be surrounded with an iron guard or railing, as follows: Said guard or railing shall be constructed of gas piping at least one and one-quarter (1¼) inches in diameter, and shall be built two (2) pipes high; one of said pipes to be placed about three (3) feet, and the other about eighteen (18) inches, from the floor, and both to be supported by gas-pipe standards, securely fastened to the floor. Such guard or railing shall be placed at least two (2) feet from, and enclosing, any stove used for heating any such moving picture theatre. Provided, however, that where gas stoves are used to heat ticket booths, in place of guards or railings such as above provided for, safe-guards approved by the Inspector of Buildings may be employed.

All exit doors shall be arranged so as to swing outward, and shall remain unlocked whenever the building is in use by the public.

No such exhibition room shall be fitted up, in any non-fireproof building, with accommodations for seating more than three hundred and fifty (350) persons. No gallery shall be fitted up in any such exhibition room in any such non-fireproof building.

Provided, however, that wherever any licensed moving picture theatres are fitted up and installed in non-fireproof buildings, not exceeding two stories in

eight, and having their outside walls constructed of rick work, and having exits to the street on which ny such building fronts, at least fifteen (15) feet a their total width, with no one exit having a width f less than five (5) feet, and having at least two 2) exits, each at least five (5) feet in width, in the ear of such building, opening directly onto a public alley, and provided with aisles at least four (4) feet n width, said moving picture theatres may have a seating capacity not exceeding four hundred (400) persons. Provided, further, that wherever any such building is so fitted up and equipped with exits and aisles as above provided, the fireproof booth containing the picture machine may be placed in the front end of the auditorium, if placed at least ten (10) feet distant from any exit. And provided, further, that the heating plant for every such building, if placed in the basement thereof, shall be enclosed with walls of stone, brick, tile or concrete, and the ceiling over such heating plant, if supported by wood joists, shall be covered on the under side with asbestos lumber at least one fourth (¼) of an inch in thickness, securely screwed to the wood joists, and all joints therein either covered with asbestos or thoroughly cemented with asbestos cement. The ceilings over the entire first floor of every such building shall be covered with a steel ceiling of a thickness at least equal to No. 27 U. S. gauge.

Every building, exceeding one story in height, in which the first story, or any portion thereof, is used as an exhibition hall for picture machines, and where the upper floors are occupied for dwelling, lodging, factory or office purposes, or for halls, shall have said upper floors completely separated, by means of fireproof walls and fireproof doors, from all communicating openings through the floors, whether for stairways or for elevator shafts, or for any other purposes.

All seats in any exhibition hall for picture machines shall be securely fastened to the floor, and shall not be less than thirty-two (32) inches from back to back. Seats shall be so arranged that there will not be more than six (6) seats connected in a line between any seat and an aisle, and no seat shall be less than eighteen (18) inches in width.

Aisles shall not be less than three (3) feet in width at their ends furthest from the main exits, and shall increase in width two (2) inches in every ten (10) feet in the length of such aisles, toward the exits. No stage or movable scenery shall be placed in or main-

tained in any exhibition room for picture machines. Provided, however, that a platform not to exceed five by fourteen (5x14) feet in size may be erected for the use of a singer of illustrated songs or for a person to give a description of the moving pictures.

Theatrical or operatic performances, costumes or movable scenery shall not be allowed in the exhibition halls for picture machines, except in buildings now occupied, used and equipped, or which may hereafter be occupied, used and equipped, as theatres.

Over every exit from a moving picture exhibition room or hall, there shall be permanently located, on the inside of such exit, a sign bearing the word "EXIT", painted or printed in easily legible, bold faced letters not less than six (6) inches in height.

Immediately adjacent to each of these exit signs, and prominently displayed, on the inside of such exits, red lights shall be placed.

Within such exhibition room, or any parts thereof to which the public may have access, there shall also be installed additional lights of sufficient brightness to permit the public moving freely about therein.

Any exit not leading directly to a public and normally well lighted thoroughfare shall have lights, sufficient in number and of proper brightness, and so placed, that each of said exits and walks leading therefrom shall be properly lighted to enable the public to move freely to such public thoroughfare.

During any occupancy of such exhibition halls by the public all of these red lights, and other emergency lights above specified, shall be kept continuously burning, and so arranged as not to be controllable from the moving picture booth. Provided, however, that the outside exit lights need not be kept burning during that portion of the day when good and sufficient daylight would be a substitute therefor.

Within the exhibition hall, a sufficient number of lights of proper brightness shall be provided to thoroughly illuminate the room when desired. These lights may be controlled from the moving picture booth, if additional independent control is also provided in another part of the house which is readily accessible.

Wherever an exhibition room for a picture machine is fitted up and equipped in any building of fireproof construction, all exits, aisles, passageways, seating, lighting installations and equipment shall be provided as required by the laws and ordinances of the City of Minneapolis pertaining to theatres.

Every picture machine shall be installed within a fireproof booth, and wherever such booth is not constructed of brick, tile or concrete, said booth shall be constructed in accordance with the following specifications:

Size:

All booths shall be at least seven (7) feet in height. The floor area to vary, according to the number of machines in booths, as follows: One (1) picture machine, six (6) feet by eight (8) feet; one (1) picture machine and one (1) stereopticon, nine (9) feet by eight (8) feet; two (2) picture machines and one (1) stereopticon, twelve (12) feet by eight (8) feet.

Frame:

The frame of such booth shall be made of structural steel as follows: Four (4) outside horizontal members at top and bottom and four (4) corner uprights and members supporting roof, all to be made of one and one-half by one and one-half by one-fourth (1½x1½x¼) inch angle irons.

Intermediate uprights to be spaced every twenty-one (21) inches, and to be made of either one and one-half by one and one-half by one-fourth (1½x1½x¼) inch angle iron, or of two by two by one-fourth (2x2x¼) inch tee irons.

Intermediate supports for the roof shall be made of one and one-half by one and one-half by three sixteenths (1½x1½x3-16) inch tee irons, spaced twenty-one (21) inches on centers.

All joints shall be made with a three-sixteenths (3-16) inch steel plate, to which each angle iron or tee iron shall be riveted or bolted by the use of at least two (2) one-fourth (¼) inch bolts or rivets.

All bolts and rivets to have flat heads, said heads to be placed on the exterior side of the booth; all angles or tee irons to be counter-sunk to receive the heads of the bolts or rivets.

Door and Frame:

The door frame to be six (6) feet in height and at least two (2) feet in width; frame to be of one by one by three-sixteenths (1x1x3-16) inch angle irons, or of one and one-half by one and one-half by three-sixteenths (1½x1½x3-16) inch tee irons, which shall be joined together by the use of

three-sixteenths (3-16) inch steel plates properly bolted or riveted to the angle or tee irons.

The door for said frame shall be hung with substantial hinges properly fastened to the door and frame and shall be hung so as to swing outward, and there shall be provided a substantial spring on said door to keep it closed. Proper stops for the door shall be provided whenever tee irons are not used to make the frame, and there shall also be provided two (2) latches on said door.

Covering of Booth:

The sides, top, bottom and door of said booth to be covered with hard asbestos lumber at least one-fourth (¼) inch in thickness, said lumber to be so cut and arranged that the joints between boards shall come over an angle or tee-iron, in such manner that each board may be securely fastened to the same. Whenever the joints of the asbestos board covering of the booth do not come over angle or tee irons, the cracks between the boards shall be covered by a strip of asbestos board at least one-eighth (1-8) inch thick and two (2) inches wide, said strips to be securely fastened to both boards in such a manner as to cover the exposed joints. The above mentioned strips and all asbestos board shall be secured in place by means of proper bolts and nuts; said bolts and nuts to be spaced not more than six (6) inches apart.

Flooring:

The floor shall be made in two parts, an upper and a lower floor. The lower floor shall be made of seven-eighths (7-8) inch boards, supported on the lower leg of the horizontal angle irons. On the top of this board floor there shall be placed the one-fourth (¼) inch asbestos lumber floor hereinbefore provided for said floor, to be securely bolted to the iron framework.

Windows:

There shall not be more than two (2) windows per machine in the booth, one (1) for the operator and one (1) for the machine. The window for each machine shall not exceed one hundred and eighty (180) square inches in area, and the window for the operator shall not exceed sixty (60) square inches in area.

All windows shall be provided with gravity or spring doors on the inside of the booth, and shall overlap the window opening at least one (1) inch on all

sides; said doors to be held open normally by the use of a fine combustible cord arranged so as to be released by hand; all to be installed in a manner satisfactory to the Inspector of Buildings.

No wooden or combustible furniture, fittings or equipment, shall be installed or permitted on the inside of any moving picture booth.

Where permanent booths are built in any building and the sides and roofs thereof are constructed of either brick, tile or concrete, the ventilation pipes, floors, doors and windows shall be built and equipped as herein provided.

Whenever the booth for a picture machine is placed on an elevation above the exhibition hall floor, there shall be provided a proper and sufficient stairway or ladder from said booth to the hall floor.

Provided, however, that it shall be permissible to install and operate a picture machine in a movable booth, to be used for occasional entertainments in churches, schools, association halls and lodge rooms, provided that a written permit therefor is first obtained from the Inspector of Buildings.

For such movable booths, the covering may be of No. 20 sheet iron, B. and S. Gauge, in place of the one-fourth (¼) inch asbestos lumber herein above provided for. Provided, however, that all such iron covered movable booths shall in all cases be placed on an asbestos lumber mat at least one-fourth (¼) of an inch in thickness.

Such movable booths shall not be less than five by five (5x5) feet in size, by seven (7) feet in height.

Ventilation:

All permanent booths shall be provided with air inlets on at least three (3) sides, said inlets to be fifteen (15) inches in length and three (3) inches in height, the lower side of the inlets to be about three (3) inches from the top of the floor of the booth. Said inlets to be covered on the inside by a wire network of not greater than one-eighth (1-8) inch mesh, and the netting to be securely fastened to the asbestos board by means of iron strips and screws.

Near the center of the top of the booth there shall be a circular opening not less than ten (10) inches in diameter, the upper side of said opening to be provided with an iron flange, which flange shall be securely fastened to the tee-irons supporting the roof of said booth. There shall be a vent pipe securely fastened to *this flange not less* than ten (10) inches in diameter, *said pipe to lead to* the outside of the building, or

to a special incombustible vent flue. In this pipe there shall be placed a box containing a twelve (12) inch electric fan, said box to be provided with a door of sufficient size to permit the examination or removal of said fan, said door to be made tight and provided with proper fastenings. The box and vent pipe to be made of galvanized iron. The fan to be so connected that it can be controlled from within the booth, and it shall be run continuously whenever the picture machine is in operation.

Wiring:

All electric wiring in any way connected with a moving picture exhibition hall shall be run in iron conduit, and shall in all other respects conform to the requirements of "An Ordinance Regulating the Installation, Operation and Maintenance of Electric Wires, Apparatus and Plants within the City of Minneapolis", approved March 20th, 1908, as subsequently amended.

Machines:

All moving picture machines must be securely fastened to the floor, in such a manner as will prevent accidental overturning or moving of the same. The moving picture machine shall always be so located that the driving belt will be at least two (2) feet from the nearest parallel wall. All such moving picture machines must be of such construction as to permit the use of electric light as the illuminant of the film, and no other illuminant may be employed in permanent booths.

Special permission may be granted by the Inspector of Buildings for the use of other illuminants in the case of temporary use of such motion picture machine as herein provided for. Such special permit shall state, in writing, the kind of illumination to be used and the method of disposal of the several parts of the apparatus employed.

Extra Films:

Films shall be kept in individual metal cases equipped with tight fitting covers.

Reels Containing Films Under Examination or in Process of Rewinding:

All films shall be enclosed in magazines or approved metal boxes, similar to those required for films when

in operation, and not more than two (2) feet of film shall be exposed in the booth.

Automatic Shutter:

Every moving picture machine now or hereafter installed shall be provided with an automatic shutter, which shall be so constructed as to shield the film from the beam of light whenever the film is not running at operating speed. The shutter shall be permanently attached to the gate frame.

Provided, however, that nothing hereinbefore in this section contained shall in any manner govern or control the use or installation of any motion picture machine, where the apparatus for projecting the motion pictures uses only an enclosed incandescent lamp operating on a 110-volt lighting circuit and only cellulose acetate or other slow-burning film of a size and perforation differing from the standard as used in theatrical machines and where such machines are to be operated only in schools, churches, halls, club-rooms or private homes.

ADEQUATE MEANS OF EGRESS PROVIDED FOR.

Section 38. In all places of public amusement, entertainment, service, or instruction, also in department stores, hotels, flat buildings, lodging houses, and factories, already erected or which may be hereafter erected, the halls, doors, stairways, seats, aisles, passageways and fire escapes shall be so arranged as to afford proper egress in case of fire, panic, or accident, as the Inspector of Buildings may deem necessary for the public safety.

CHURCHES: SEATING AND EXITS.

Section 39. Every church now or hereafter erected shall have the doors of all main exits from the auditorium and from the assembly-rooms of various kinds arranged to swing outward.

The seats in the main auditorium of any such building shall be fastened to the floor, if the seating capacity of said auditorium is more than 300 persons; and no seat shall have more than six (6) seats intervening between it and the adjacent aisle, allowing twenty-two (22) inches to the seat, where pews are used.

Aisles having seats on each side shall not be less than three (3) feet in width, and aisles having seats on one side only shall not be less than two and one-half (2½) feet in width.

Main exits shall be provided, of a total width equal to twenty (20) inches for every one hundred (100) seats in the auditorium, allowing, in all cases where pews are used, twenty (20) inches to the seat.

CHURCH FLOORS, HEIGHT ABOVE GROUND LEVEL.

Section 40. The main floor of any church hereafter erected, seating more than five hundred (500) people, shall not be at a greater height than five (5) feet above the level of threshold of main entrance.

Provided, however, that wherever churches are constructed of fire-proof materials throughout, the main floor may be raised to a height not exceeding sixteen (16) feet above the level of the grade of the lot upon which such building is located.

HEATING PLANT OF CHURCH.

Section 41. Where the room containing the heating plant of any church now or hereafter erected is not of fireproof construction, the walls and ceiling of such room shall be protected by fire-proof materials in a manner approved by the Inspector of Buildings.

CHURCHES FIRE-PROOFED, WHERE AND WHEN.

Section 42. No woodwork or other inflammable material shall be used in any of the walls, floor construction, partitions, or stairways of any church, seating more than one thousand (1,000) people, hereafter erected.

REVOLVING DOORS.

Section 43. The use of revolving doors for the exits of department stores, office buildings and halls is hereby prohibited, unless there are provided additional doors of sufficient width, alongside of said revolving doors. If such additional doors are provided, they shall be kept unlocked and shall be arranged to swing outward.

SCHOOL HOUSES, STAIRS FROM BASEMENT, WHERE.

Section 44. There shall be provided an outside stairway from the basement of every school house now or hereafter erected where class rooms are located in the basement, and said stairway, and the doorway opening onto the same, shall not be less than three (3) feet in width and shall be located as near the said basement

class rooms as practicable. Where such basement class rooms accommodate more than one hunderd (100) pupils, additional exits shall be provided as the Inspector of Buildings may deem necessary.

STAIRWAYS IN BUILDINGS.

Section 45. In all building now or hereafter erected there shall be provided stairways in such locations and numbers and constructed of such materials and of such widths, as the Inspector of Buildings may deem necessary for the public safety.

PUBLIC HALLS AND LODGE ROOMS.

Section 46. No public hall or lodge-room shall hereafter be maintained above the third floor of any building now or hereafter erected unless such building is of fireproof construction.

Provided, however, that the above provision shall not prevent the use of any hall or lodge-room now constructed and situated on the fourth floor of any building for the purposes above named, provided such public hall or lodge-room is provided with stairways, fire escapes and standpipes with proper hose connections, approved by the Inspector of Buildings.

CONCERT HALLS.

Section 47. Nothing contained in this ordinance shall prohibit the use of any concert hall, complying with the requirements of this and other ordinances of the City of Minneapolis relative to public halls, for entertainments or performances in which stage scenery and apparatus for theatrical or operatic purposes are not employed.

BUILDINGS CONTAINING PUBLIC HALLS OR AUDITORIUMS MUST BE FIREPROOF, WHEN.

Section 48. Every building hereafter erected or altered to be used as a public hall or auditorium accommodating more than eight hundred (800) people, and every building hereafter erected containing a public hall or auditorium above the second floor accommodating more than three hundred (300) people, shall have the walls, floors, partitions, ceilings, stairways and roofs thereof constructed of fire-proof materials approved by the Inspector of Buildings.

AUTHORITY OF INSPECTOR OF BUILDINGS AND ASSISTANTS TO ENTER BUILDINGS.

Section 49. The Inspector of Buildings and his assistants shall have the right to enter any building affected by the provisions of this ordinance and any and all parts thereof at any reasonable time, especially when occupied by the public, in order to examine such buildings and to enforce the provisions of this ordinance, and it shall be unlawful for any person or persons to interfere with them in the performance of their duties.

CHIEF OF POLICE, DUTY OF.

Section 50. There shall not be admitted within any auditorium at any one time, a greater number of persons than there are permanent seats in such auditorium; and it shall be the duty of the Chief of Police to enforce this provision.

VIOLATIONS.

Section 51. The continued violation of any provision of this ordinance shall be and constitute a separate offense under this ordinance for each and every day such violation of any provision hereof shall continue.

Section 52. No owner, builder, contractor, architect, or other person, shall construct, maintain, alter or repair, or cause or permit to be constructed, maintained, altered or repaired, any building contrary to the provisions of this ordinance.

PENALTY.

Section 53. Any person or persons who shall violate any provision of this ordinance shall be subject, upon conviction thereof, to a fine of not less than Twenty-Five Dollars ($25.00) nor more than One Hundred Dollars ($100.00) for every offense, or, upon failure to pay such fine, to imprisonment not to exceed ninety (90) days.

PREVIOUS ORDINANCE REPEALED.

Section 54. That certain ordinance entitled "An Ordinance to Regulate the Construction of Buildings or Structures within the City of Minneapolis Used or Intended to be Used for Public Amusements, Instruction or Entertainment of any kind within the City of Minneapolis", passed June 10th, 1887, approved June 14th, 1887, is hereby repealed.

THIS ORDINANCE TO TAKE EFFECT, WHEN.

Section 55. This ordinance to take effect and be in orce from and after its publication.

Passed April 29th, 1904.

HARRY McLASKEY,
Vice-President of the Council.

Approved May 6th, 1904.

J. C. HAYNES,
Mayor.

Attest:
L. A. LYDIARD,
City Clerk.

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